

# On The Correct Formulation Of The Law Of The External Photoelectric Effect

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## Abstract

*The critical and correct scientific analysis of the generally accepted theory of the external photoelectric effect is proposed. The methodological basis for the analysis is the unity of formal logic and of rational dialectics. It is shown that Einstein's formulation of the law of the photoelectric effect is not free from the following objection. The terms of Einstein's formula characterize the quantitative determinacy (i.e., energy) which belongs and is related to the different material objects: "photon", "electron in metal", and "electron not in metal". This signifies that Einstein's formula represents violation of the formal-logical laws of identity and absence (lack) of contradiction. The correct mathematical formulation of the law of the external photoelectric effect within the framework of the system approach is proposed. The correct formulation represents the proportion by relative increments of the energy of the incident photon and the energy of the emitted electron. The proportion describes the linear relationship between the energy of the incident photon and the energy of the emitted electron.*

## I. INTRODUCTION

Recently, the progress of sciences, engineering, and technology has given rise to a new problem: the problem of rationalization of the fundamental sciences (for example, theoretical physics and mathematics). Rationalization of sciences is impossible without rationalization of thinking and critical analysis of the foundations of sciences within the framework of the correct methodological basis: the unity of formal logic and of rational dialectics. Therefore, one should call achievements of classics of sciences in question within

the framework of the correct methodological basis. As the critical analysis shows [1-27], the foundations of theoretical physics and of mathematics contain formal-logical and dialectical errors. This signifies that any generally accepted theory can be rebutted if it contradicts to the formal-logical and dialectical laws.

As is known, researches of the external photoelectric effect (photoeffect) are one of remarkable scientific achievements in physics of 19-20 centuries. H. Hertz (1887), A. Stoletow (1888-1891), J. J. Thomson (1899), P. Lenard (1899, 1900, 1902), R. Millikan (1916), and other scientists proved experimentally that the energy (the maximum speed) of the photoelectrons does not depend on the intensity of incident light and is directly proportional to the frequency of light [28-33]. A. Einstein [34] proposed the quantum theory of external photoelectric effect. The theory is in accordance with experimental observations of photoelectric effect. However, in my opinion, this does not mean that the theory is free from objection.

The purpose of this work is to propose the critical analysis of the generally accepted theory of external photoelectric effect. The methodological basis for the analysis is the unity of formal logic and of rational dialectics.

## II. METHODOLOGICAL BASIS

As is known, correct methodological basis of science is the unity of formal logic and of rational dialectics. Use the correct methodological basis is a necessary condition for correct analysis to make distinction between truth and falsehood. However, this fact is ignored by majority of scientists until now. Therefore, the main propositions of formal logic and of materialistic dialectics which are used in the present work must be stated.

1. The system is a set of elements that are in relations and connections with each other, forming certain integrity, unity.
2. The system principle reads as follows: property of system is not a consequence of the properties of its elements; the system determines the properties of the elements; and the properties of elements characterize the system;
3. Structure (construction, arrangement, order) is a set of stable connections (bonds) in object, which ensure its integrity and qualitative self-identity (i.e., ensure conservation of the basic properties) under different external and internal changes;
4. The system analysis of material system represents a task of finding the states of a material system. This task can be reduced to the task of finding quantitative (tabular or analytical) relationships between the characteristics of the elements of the material system under condition of conservation of the structure (i.e., qualitative determinacy) of the system. The correct solution of the task should be based on the following practical operations (steps): (a) one chooses the element which must be subjected to quantitative change (i.e., to movement); selected element undergoes quantitative change without changing in the qualitative determinacy of the system; (b) one finds quantitative changes in other elements stipulated (conditioned) by the change in the selected element; these changes should not lead to a change in the structure of the system (i.e., to a change in the

qualitative determinacy of the system); (c) one finds the boundaries of quantitative changes within which the system remains identical to itself; (d) one finds the elements that are not changed; (e) one finds a quantitative (tabular or analytic) relationships between the values and dimensions of variables quantities which characterize elements. However, it should be emphasized that one can obtain an analytical solution of the task only in case of a simple statement of the problem or in the case of simple systems. In these cases, an analytical solution represents a proportion. The proportion represents linear relationship between relative increments of quantities describing the different elements.

5. Property is a philosophical category that designates such aspect of material object, which stipulates (determines) difference or commonality between other objects. Property is one of the aspects of the given object or phenomenon. Some properties express qualitative determinacy of object, others express quantitative determinacy of object;
6. Energy is general quantitative measure of motion and of interaction of all species (kinds) of matter. Energy does not emerge (appear, spring up) from nothing and does not vanish (disappear; exterminate). It can only move from one form to another. Various (different) forms of energy are as follows: mechanical, internal, electromagnetic, chemical, nuclear and other forms. The law of conservation of energy reads as follows: the energy of an isolated system is conserved:

$$E^{(isolated\ system)} = const$$

7. Energy is an inherent (inalienable) physical property, an essential feature of a material object. The energy of a material object represents a physical quantity.
8. The material object is a body, a field, a particle, as well as a system of bodies, of fields, of particles.
9. Physical quantity is the unity of the qualitative determinacy and of the quantitative determinacy of a material object. Mathematics describes the change in the quantitative determinacy of a material object (physical quantity). In terms of formal logic, mathematics does not describe changes in qualitative determinacy of an object.
10. Mathematics studies the quantitative determinacy belonging to the qualitative determinacy of the object. In accordance with formal logic, the left-hand side and right-hand side of the mathematical expression describing the property of a system should be relate and belong to the qualitative determinacy of this system, i.e.,

$$(qualitative\ determinacy\ of\ system) = (qualitative\ determinacy\ of\ system).$$

11. The left-hand side and right-hand side of the mathematical expression describing the property of element should be relate and belong to the qualitative determinacy of this element, i.e.

$$(qualitative\ determinacy\ of\ element) = (qualitative\ determinacy\ of\ element).$$

12. Both quantitative and qualitative determinacy of an object must obey logical laws. Therefore, according to the logical law of identity, the left-hand and right-hand sides of the mathematical equation must belong to the same physical object (i.e. to the same property of physical object or the physical model of the object). And, according to the

logical law of absence (lack) of contradiction, the left-hand and right-hand sides of the mathematical equation must not belong to different physical objects (i.e., to different properties, models).

### III. THE STARTING POINTS OF THE CORRECT THEORY OF THE EXTERNAL PHOTOELECTRIC EFFECT

1. As is known, emission of electrons from a metal surface into a vacuum under the influence of the incident monochromatic light is called the external photoelectric effect (photoeffect). The experimental device for research of the external photoelectric effect is the evacuated balloon with window. The ultraviolet light falls through a quartz window upon the surface of the cathode (electrode of an alkali metal) and ejects electrons from the surface. The emitted electrons are called photoelectrons. The other electrode – the anode – collects the emitted photoelectrons. The current in the electric circuit of the device arises when the electric field takes action between the anode and the cathode. Voltage-current characteristic (i.e., the dependence of the photocurrent on the voltage between the electrodes) is determined. Also, the stopping voltage under which the value of current is zero is determined. These data lead to the following conclusion: the kinetic energy of the photoelectrons increases linearly with increase of the frequency of light [35].

2. The following assertions are true:

(a) The interaction of monochromatic (UV) light with the alkali metal surface can be described as a set of separated processes (events). Each separated (individual) process (event) is the emergence of “electron not in metal” as a result of the interaction of a photon with the “electron in metal”. “Electron in metal” absorbs the incident photon (i.e., absorbs the energy of the incident photon) and is converted into “electron not in metal”:

“electron in metal”  $\rightarrow$  “electron not in metal”.

This signifies that “electrons not in metal” with the energies  $E_1^{(\text{electron not in metal})}$ ,  $E_2^{(\text{electron not in metal})}$ ,  $E_3^{(\text{electron not in metal})}$  ... correspond to photons with energies  $E_1^{(\text{photon})}$ ,  $E_2^{(\text{photon})}$ ,  $E_3^{(\text{photon})}$ , ... ;

(b) The physical system,

$S(\text{photon; electron in metal; electron not in metal})$

(where the “photon”, “electron in metal”, and “electron not in metal” are the elements of the system), represents a closed system for each separated (individual) process (event);

(c) The qualitative determinacy of the elements “photon”, “electron in metal”, and “electron not in metal” is different. This difference is expressed by the formal-logical law of absence (lack) of contradictions:

“electron in metal”  $\neq$  “electron not in metal”, “photon”  $\neq$  “electron”.

Therefore, the concepts of “electron in metal” and “electron not in metal” are not identical to each other. The relation between these concepts is the relation of disagreement.



(d) The left-hand side and right-hand side of the mathematical expression describing the property of element should be relate and belong to the qualitative determinacy of this element, i.e.

*(qualitative determinacy of the element ) =(qualitative determinacy of the element )*;

*“photon” = “photon”,*

*“electron in metal” = “electron in metal”,*

*“electron not in metal” = “electron not in metal”.*

In this case, the mathematical relationship satisfies the formal-logical law of identity;

(e) The left-hand side and the right-hand side of the mathematical expression describing the property of set of unconnected elements,

*“photon” + “electron in metal” + “electron not in metal”,*

do not belong to the qualitative determinacy of certain (separated) element or of system. Therefore, such mathematical expression does not satisfy the formal-logical law of identity and is wrong.

In accordance with the results of the experiments, and from the above-stated assertions, a new formulation of the problem follows: if the change in the energy of photon results in the change in the energy of photoelectron, then one should find a mathematical relationship between the relative increment of the energy of photon and the relative increment of the energy of photoelectron.

The problem has the following solution. Mathematical relationship between relative increments is as follows:

$$\left( \frac{E^{(photon)} - E_1^{(photon)}}{E_1^{(photon)}} \right) = \left( \frac{E^{(electron not in metal)} - E_1^{(electron not in metal)}}{E_1^{(electron not in metal)}} \right)$$

where  $E_1^{(electron not in metal)} \neq 0$  and  $E_1^{(photon)} \neq 0$  are a certain values of the variable quantities  $E^{(electron not in metal)}$  and  $E^{(photon)}$ , respectively. This relationship represents the proportion; it describes the mutual changes in the energies of the elements of the system; it satisfies the formal-logical law of identity; it is the unique one. Therefore, this relationship is the only correct formulation of the law of the photoelectric effect:

$$E^{(not in metal)} = \left( \frac{E_1^{(electron not in metal)}}{E_1^{(photon)}} \right) E^{(photon)}$$

where

$E^{(photon)} = h\nu^{(photon)}$  is the energy of the photon;

$E^{(electron not in metal)} \equiv E^{(free electron)} = h\nu^{(electron)}$  is the energy of the free electron;

$h$  is Planck constant;

$\nu^{(photon)}$  is oscillation frequency of photon;

$\nu^{(electron)}$  is oscillation frequency of electron.

It should be emphasized that, in formal-logical point of view, the expression  $h\nu$  is correct if  $h$  is oscillating quantity [8]. Therefore  $\nu^{(photon)}$  represents the photon frequency of oscillation of the quantity  $h$ ;  $\nu^{(electron)}$  represents the electron frequency of oscillation of the quantity  $h$ .

#### IV. THE OBJECTION CONCERNING THE GENERALLY ACCEPTED THEORY OF THE EXTERNAL PHOTOELECTRIC EFFECT

As is known, generally accepted formulation of the law of the photoelectric effect represents the mathematical expression of the law of conservation of energy [33]:

$$E^{(electron\ not\ in\ metal)} = E^{(mono-chromatic\ light)} - E^{(electron\ in\ metal)}$$

or, in quantum point of view,

$$E^{(electron\ not\ in\ metal)} = E^{(photon)} - E^{(electron\ in\ metal)}$$

where

$E^{(mono-chromatic\ light)}$  is the energy of the incident monochromatic light;

$E^{(electron\ in\ metal)}$  is the work of exit, i.e., the binding energy of electron in metal;

$E^{(electron\ not\ in\ metal)}$  is the energy of the photoelectron (i.e., emitted electron);

$E^{(photon)} = h\nu^{(photon)}$  is the energy of the photon;

This expression – Einstein's formula [33] – is a linear relationship between the quantities  $E^{(electron\ not\ in\ metal)}$  and  $E^{(electron\ in\ metal)}$ . The essence of Einstein's formula is that the terms belong to different physical objects (i.e., to different qualitative determinacy). Therefore, Einstein's formula is not free from the following objection.

Qualitative determinacy of elements "photon", "electron in metal", and "electron not in metal", as well as the concepts of "photon", "electron in metal", and "electron not in metal" are considered to be identical to each other in the Einstein formula. But the qualitative determinacy of elements "photon", "electron in metal", and "electron not in metal" of the physical system,

$S(photon; electron\ in\ metal; electron\ not\ in\ metal)$ ,

is different (nonidentical). This difference (non-identity) is expressed the formal-logical law of absence (lack) of contradictions:

"electron in metal"  $\neq$  "electron not in metal",

"photon"  $\neq$  "electron";

Also, the concepts of "photon", "electron in metal", and "electron not in metal" are not identical to each other. The relation between these concepts is the relation of disagreement.

Consequently, Einstein's formula contradicts to the formal-logical laws of identity and absence (lack) of contradiction and is incorrect in essence.

**Remark:** As has been shown in [20, 21, 25-27], the graphical representation of mathematical functions is inadmissible (incorrect) operation if: (a) the scales (i.e., abscissa and ordinate) of the coordinate system have different (unlike) dimensions (i.e., different

qualitative determinacy): for example, the voltage dimension (“V”) and the current dimension (“amp”), the frequency dimension (“1/sec”) and the stopping potential (“V”); (b) the scales characterize different material objects. Really:

- i. if the scales (abscissa and ordinate) have different dimensions (i.e., different qualitative determinacy), then the point of intersection of the scales and the point which does not lie on the scale have both dimensions. But this contradicts to the formal logic and practice;
- ii. if some scale has the dimension of the energy of photon and the other scale has the dimension of the energy of electron, then this signifies that: (a) the point of intersection of the scales and the point not lying on scale belong both the photon and the electron (i.e., the points belong to the different (non-identity) material objects); (b) two different value of energy characterize a point on the plane; (c) the values of the energy are the projections of the point on the plane; (d) the distance of this point from the zero point represents the length of the line segment. But in this case, the points (which do not lie on the scale), line segments, plane, and the coordinate system do not exist. Consequently, the assertion that the points (which are not on the scales), the line segments, plane, and coordinate system exist is erroneous because it contradicts to formal logic and practice.

## V. DISCUSSION

- 1) As is known, formal logic is the general science of the laws of correct thought. The laws of formal logic represent the theoretical generalization and reflection of practice in human consciousness. Consequently, formal logic exists in human consciousness and practice. Practice is criterion of validity (trueness, truth) of formal logic.
- 2) Dialectical materialism is the general science of the most common (general) kinds of connections and laws of development of nature, of human society, and of thought. The laws of dialectics represent the theoretical generalization and reflection of practice in human consciousness. Consequently, dialectics exists in human consciousness and practice. Practice is criterion of validity (trueness, truth) of dialectics.
- 3) The only correct methodological basis of sciences is the unity of formal logic and of rational dialectics. Mathematics and theoretical physics are sciences if and only if its foundations are formulated within the framework of correct methodological basis.
- 4) As is well known, science originated in the ancient world in connection with the requirements of social practice and had quick development since 16-17-th ages. In the course of historical development, science changed into a productive force and into the most important social institution which has a significant impact on all spheres of society. Today, science is a huge sphere of human activity aimed at obtaining new knowledge and theoretical systematization of objective knowledge about reality. Sum of objective knowledge underlies the scientific picture of the world. The scientific picture of the world plays an important world-outlook role in the development of human society.
- 5) Science is developed in the inductive way, i.e., in the way of “negation of negation”. Therefore, extensive and revolutionary periods are alternated in the development of

science. Scientific revolutions lead to a change in the structure of science, the cognition principles, categories and methods, as well as forms of organization of science.

- 6) Inevitability of scientific revolutions was first emphasized by A. Einstein: “progress of science will be the cause of revolution in its foundations” (A. Einstein). Also, the following statement is true one: a critical reassessment of the standard foundations of science leads to the progress of science. These aspects in development of science are characterized, for example, by A. Einstein’s words: “There has been formed a notion that the foundations of physics were finally established and the work of a theoretical physicist should be to bring a theory in correspondence with all the time increasing abundance of the investigated phenomena. Nobody thought that a need for radical rebuilding of the foundations of all physics could arise. Our notions of physical reality never can be final ones”. At present, the validity of Einstein’s assertion is confirmed by the poor states of sciences.
- 7) In this connection, the problem of critical analysis of foundations of theoretical physics and of mathematics within the framework of the correct methodological basis (i.e., the unity of formal logic and of rational dialectics) arises. This methodological basis represents the system of logical laws and of general-scientific methods of cognition of reality: observation and experiment, analysis and synthesis, induction and deduction, analogy and hypothesis, logical and historical aspects, abstraction and idealization, generalization and limitation, ascension from concrete concepts to abstract concepts, comparison, modeling, etc.
- 8) The necessity of application of general-scientific methods for the critical analysis of theoretical physics and of mathematics is also stipulated by the fact that the foundations of theoretical physics and of mathematics contain vagueness which can not become aware and be formulated in the standard physical and mathematical terms because the physics and mathematics do not contain many universal (general-scientific, philosophical) concepts; moreover, origin of vagueness is often stipulated by “thoughtless use of mathematics” (L. Boltzmann). In this case, formal-logical errors come into existence in mathematics and natural-scientific theories. In my opinion, the errors in mathematics and physics are an inevitable consequence of the inductive method of cognition.
- 9) This gives possibility to elicit, to reveal, to recognize errors done by the great scientists of the past time and leads to the abolishment (elimination) of set of standard theories. But even the mistakes done by the great scientists contribute to progress in science: “false hypotheses often rendered more services than the true ones” (H. Poincare) because mistakes extend consciousness of scientists. Such is the dialectics of truth and of lie in science.
- 10) Einstein’s great achievement was recognized internationally by the Nobel Prize award to him in 1921 for “his discovery of the law of the photoelectric effect”. It was recognition of his contribution to world science of that time. But today this fact signifies that one



should call great scientific achievements in question within the framework of the correct methodological basis: the unity of formal logic and of rational dialectics.

## VI. CONCLUSION

Thus, the correct scientific analysis of the generally accepted theory of the external photoelectric effect is possible only within the framework of the correct methodological basis: the unity of formal logic and of rational dialectics. The correct scientific analysis of the theory leads to the following results:

The mathematical formulation of the law of the external photoelectric effect proposed by Einstein is not free from objection. The objection is as follows.

1. The terms of Einstein's formula characterize quantitative determinacy (i.e., energy) which belongs and is related to different material objects: "photon", "electron in a metal", and "electron not in metal". But according to the formal-logical laws of identity and absence (lack) of contradiction: (a) the terms of the mathematical (quantitative) relationship should belong and be related to the qualitative determinacy of only one material object; (b) the terms of the mathematical (quantitative) relationship should not belong and be related to the qualitative determinacy of different (non-identical) material objects. Therefore, Einstein's formula contradicts to the formal-logical laws of identity and absence (lack) of contradiction.
2. The correct mathematical formulation of the law of external photoelectric effect is proposed. The formulation is based on the use of formal logic and of the system approach. The essence of the formulation is that it represents the proportion by relative increments of the energy of the incident photon and the energy of emitted electron. The proportion describes correctly the linear relationship between the energy of the incident photon and the energy of the emitted electron.

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# Investigation Of The Changes On Low Density Lipoprotein Cholesterol In Response To Aerobic And Anaerobic Training Among Type 2 Diabetic Patients

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## Abstract

*The rationale of the study is to investigate the changes on high-density lipoprotein cholesterol in response to aerobic and anaerobic training among type 2 diabetic patients. To achieve the purpose of the study 45 male type 2 diabetic patients from Ongole, in the southern state of Andhra Pradesh, India, were selected as subjects. The subjects were selected in the age group of 45 to 50 years and they were randomly assigned into three equal groups of 15 each. Experimental group-I performed aerobic training, experimental group-II performed anaerobic training and group III acted as control. The low density lipoprotein cholesterol was selected as dependent variable. The data collected from the three groups prior to and post experimentation on selected dependent variable was statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). Whenever the obtained 'F' ratio value was found to be significant for adjusted post test means, the Scheffe's test was applied as post hoc test. In all the cases the level of confidence was fixed at 0.05 level for significance. The result of the study also produced 5.20% percentage of improvement aerobic training, 2.88% of improvement due to anaerobic training in low density lipoprotein cholesterol of the diabetic patients.*

## I. INTRODUCTION

Recent data suggest that both aerobic and anaerobic training may exert beneficial effects on cardiac risk factors in subjects with type 2 diabetes. However, it remains unclear if the extent of improvement and the mechanisms underlying the metabolic effects of these



exercise protocols are similar. Recent comparison studies reported similar cardiac risk factors alterations after aerobic or anaerobic training. However, the extent of these changes in other studies using either type of exercise varied considerably, and therefore the results cannot be considered conclusive.

No meta-analysis of the effects of aerobic and anaerobic training on coronary heart disease risk factors in people with diabetes has been published. In the general, predominantly non diabetic population, the effects of exercise training on blood pressure (Albright et al., 2000) and lipids (Whelton et al., 2002) are relatively modest. Greater increases in HDL cholesterol and decreases in plasma triglycerides have been seen with exercise programs that are more rigorous in terms of both volume and intensity than those that have been evaluated in diabetic subjects (Leon et al., 2001). Potential mechanisms through which exercise could improve cardiovascular health were reviewed by Stewart (Kraus et al., 2002). These include decreased systemic inflammation, improved early diastolic filling (reduced diastolic dysfunction), improved endothelial vasodilator function, and decreased abdominal visceral fat accumulation.

High levels of cholesterol in the blood can increase the risk of formation of plaques and atherosclerosis. High cholesterol can be caused by a high level of low-density lipoprotein (LDL), known as the "bad" cholesterol. A low level of high-density lipoprotein (HDL), known as the "good" cholesterol, also can promote atherosclerosis. Diabetes is associated with an increased risk of coronary artery disease. Both conditions share similar risk factors, such as obesity and high blood pressure. Excess weight typically worsens other risk factors. Lack of exercise also is associated with coronary artery disease and some of its risk factors, as well. Unrelieved stress in life may damage arteries as well as worsen other risk factors for coronary artery disease.

In particular, most of the benefit of regular exercise on cardiac risk factors in type 2 diabetes subjects is attributed to attenuation of insulin resistance. However, only a few studies have accurately assessed, the effects of aerobic training on insulin sensitivity in diabetic patients (Cuff et al., 2003; Yamanouchi et al., 1995; Tamura et al., 2005; Hey-Mogensen et al., 2010), and only one small study assessed the effects of anaerobic training. In contrast, little attention has been devoted to the potential effects of aerobic or anaerobic training on low density lipoprotein cholesterol in subjects with type 2 diabetes.

## **II. METHODOLOGY**

### **1) Subjects and Variables**

The purpose of the study is to investigate the changes on low density lipoprotein cholesterol in response to aerobic and anaerobic training among type 2 diabetic patients. To achieve the purpose of the study 45 male type 2 diabetic patients from Ongole, in the southern state of Andhra Pradesh, India, were selected as subjects. The subjects were selected in the age group of 45 to 50 years and they were randomly assigned into three equal groups of 15 each. Experimental group-I performed aerobic training, experimental group-II performed

anaerobic training and group III acted as control. Control group was restricted to participate in any specific training. The low density lipoprotein cholesterol was selected as dependent variable. Venous blood specimens were withdrawn after overnight fasting (12-14 hours) from the subjects of experimental and control groups. low density lipoprotein cholesterol was estimated by Enzymatic calorimetric method recommended by Bursten et al.

## **2) Training Protocol**

The experimental group-I performed aerobic training alternatively three days in a week for twelve weeks. In this present investigation continuous running was given to the subjects as aerobic training. To fix the training load for the aerobic training group the subjects were examined for their exercise heart rate in response to different work bouts, by performing continuous running of two minutes duration for proposed repetitions and sets, alternating with active recovery based on work-rest ratio. The experimental group-II performed anaerobic training alternatively three days in a week for twelve weeks. The subjects were examined for their exercise heart rate in response to different anaerobic work bouts by the anaerobic exercise of 50 meters sprinting was performed for proposed repetitions and sets, alternating with rest time that enables complete recovery. The subject's training zone was computed using Karvonen formula (Karvonen, Kentala & Mustala, 1957) and it was fixed at 60%HRmax to 85%HRmax. The work rest ratio of 1:1 between repetition and 1:3 between sets was given. Heart rate monitors were used to standardize exercise intensity (Polar S810i; Polar Electro, Kempele, Finland). Before entering the study, all subjects were encouraged to follow a healthy diet, according to standard recommendations for diabetic subjects (American Diabetes Association Standards of medical care in diabetes, 2011). Thereafter, patients were instructed to maintain their baseline calorie intake by consuming self-selected foods.

## **3) Statistical Technique**

The data collected from the experimental and control groups on low density lipoprotein cholesterol was statistically analyzed by paired 't' test to find out the significant differences if any between the pre and post test. Further, percentage of changes was calculated to find out the chances in selected dependent variable due to the impact of experimental treatment. The data collected from the three groups prior to and post experimentation on low density lipoprotein cholesterol was statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). Since three groups were involved, whenever the obtained 'F' ratio value was found to be significant for adjusted post test means, the Scheffe's test was applied as post hoc test. In all the cases the level of confidence was fixed at 0.05 level for significance.

## **III. RESULT**

The descriptive analysis of the data showing mean and standard deviation, range, mean differences, 't' ratio and percentage of improvement on low density lipoprotein cholesterol of experimental and control groups are presented in table-1

**Table – 1: Descriptive Analysis Of The Pre And Post Test Data And ‘T’ Ratio On Low Density Lipoprotein Cholesterol Of Experimental And Control Groups**

Group	Test	Mean	Standard Deviation	Range	Mean Differences	‘t’ ratio	Percentage of changes
Aerobic Training	Pre test	158.13	20.62	59.00	8.22	12.32	5.20%
	Posttest	149.91	19.80	58.00			
Anaerobic Training	Pre test	159.53	21.66	59.00	4.60	13.72	2.88%
	Posttest	154.93	21.32	57.00			
Control Group	Pre test	161.20	17.60	48.00	1.13	1.91	0.70%
	Posttest	162.33	18.88	52.00			

Table t-ratio at 0.05 level of confidence for 14 (df) =2.15

Table- 1 shows that the mean, standard deviation, range and mean difference values of the pre and post test data collected from the experimental and control groups on low density lipoprotein cholesterol. Further, the collected data was statistically analyzed by paired ‘t’ test to find out the significant differences if any between the pre and post data. The obtained ‘t’ values of aerobic training, anaerobic training and control groups are 12.32, 13.72 and 1.91 respectively. It revealed that significant differences exist between the pre and post test means of experimental groups however, no significant differences exists between the pre and post test means of control group on low density lipoprotein cholesterol. The result of the study also produced 5.20% percentage of changes in low density lipoprotein cholesterol due to aerobic training, 2.88% of changes due to anaerobic training and 070% of changes in control group.

The pre and post test data collected from the experimental and control groups on low density lipoprotein cholesterol is statistically analyzed by using analysis of covariance and the results are presented in table-2.

**Table –2: Analysis Of Covariance On Low Density Lipoprotein Cholesterol Of Experimental And Control Groups**

	Aerobic training Group	Anaerobic training Group	Control Group	S o V	Sum of Squares	Df	Mean squares	‘F’ ratio
Pre test Mean	158.13	159.53	161.20	B	70.71	2	35.36	0.09
SD	20.62	21.66	17.60	W	16861.9	42	401.47	
Post test Mean	149.91	154.93	162.33	B	1171.08	2	585.54	1.46
SD	19.80	21.32	18.88	W	16845.6	42	401.09	
Adjusted Post test Mean	151.39	155.02	160.77	B	667.18	2	333.59	71.89*
				W	190.24	41	4.64	

Table F-ratio at 0.05 level of confidence for 2 and 42 (df) = 3.23, 2 and 41 (df) = 3.23

\*Significant

Table-2 shows that the pre-test means and standard deviation on low density lipoprotein cholesterol of aerobic training, anaerobic training and control groups are  $158.13 \pm 20.62$ ,

159.53  $\pm$  21.66 and 161.20  $\pm$  17.60 respectively. The obtained 'F' value 0.09 of low density lipoprotein cholesterol is lesser than the required table value of 3.23 for the degrees of freedom 2 and 42 at 0.05 level of confidence, which proved that the random assignment of the subjects were successful and their scores on low density lipoprotein cholesterol before the training were equal. The post-test means and standard deviation on low density lipoprotein cholesterol of aerobic training, anaerobic training and control groups are 149.91  $\pm$  19.80, 154.93  $\pm$  21.32 and 162.33  $\pm$  18.88 respectively. The obtained 'F' value of 1.46 on low density lipoprotein cholesterol was lesser than the required table value of 3.23 at 2, 42 df at 0.05 level of confidence. It implied that no significant differences exist between the three groups during the post test on low density lipoprotein cholesterol.

The adjusted post-test means on low density lipoprotein cholesterol of aerobic training, anaerobic training and control groups are 151.39, 155.02 and 160.77 respectively. The obtained 'F' value of 71.89 on low density lipoprotein cholesterol was greater than the required table value of 3.23 of 2, 42 df at 0.05 level of confidence. Hence, it was concluded that significant differences exist between the adjusted post test means of aerobic training, anaerobic training and control groups on low density lipoprotein cholesterol. Since, the obtained 'F' value in the adjusted post test means was found to be significant, the Scheffe's test was applied as post hoc test to find out the paired mean difference, and it is presented in table-3

**Table -3: Scheffe's Post Hoc Test for the Differences among Paired Means of Experimental and Control Groups on Low Density Lipoprotein Cholesterol**

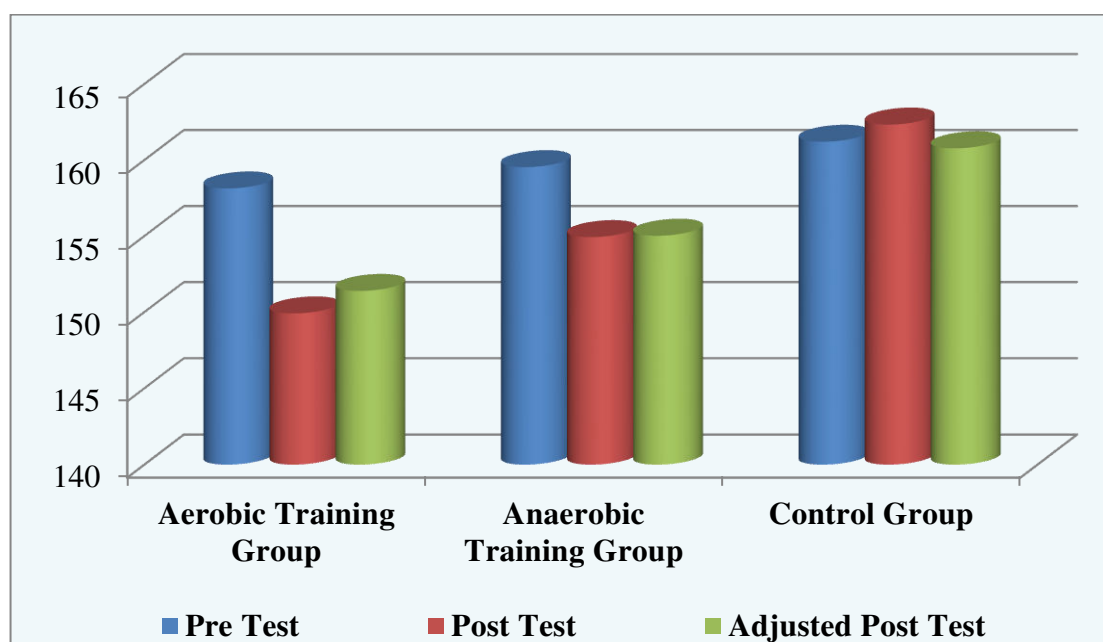
Aerobic Training	Anaerobic Training	Control Group	Mean Difference	Confidence Interval
151.39	155.02		3.63*	1.99
151.39		160.77	9.38*	1.99
	155.02	160.77	5.75*	1.99

\*Significant at 0.05 level

As shown in table-3 the Scheffe's post hoc analysis proved that significant mean differences existed between aerobic training and anaerobic training groups, aerobic training and control groups, anaerobic training and control groups on low density lipoprotein cholesterol. Since, the mean differences 3.63, 9.38 and 5.75 are higher than the confident interval value of 1.99 at 0.05 level of significance.

Hence, it is concluded that due to the effect of aerobic training and anaerobic training the low density lipoprotein cholesterol of the subjects was significantly changed. It is also concluded that aerobic training is better than anaerobic training in decreasing low density lipoprotein cholesterol. The pre, post and adjusted post test mean values of experimental and control groups on low density lipoprotein cholesterol is graphically represented in figure- 1.





**Figure – 1: Bar Diagram Showing the Mean Values on Low Density Lipoprotein Cholesterol of Experimental And Control Groups**

#### IV. DISCUSSION

Use of physical activity in the form of aerobic and anaerobic exercise is widespread, with a general consensus about its beneficial effects in patients with type 2 diabetes. The therapeutic benefits include regulation of body weight, reduction of insulin resistance, enhancement of insulin sensitivity, and glycemic control. The result of the present study is in conformity with the findings of the previous research studies. Many previous studies have shown that long term low intensity aerobic exercise is beneficial and increases the HDL level (Hata & Nakajima 2000; Halverstadt et al., 2007; Ring-Dimitriou et al., 2007; Marti B et al., 1990; Marti et al., 1990 and Dragusha et al., 2010). The above finding can also be substantiated by observations made by the following authors. Tikkanen, Hamalainen and Harkonen (1999) concluded 12 month home-based exercise training significantly increases HDL-C level in healthy men. Kelley, Kelly and Tran (2004) observed an increase of 3% for HDL-C.

Leon and Sanchez (2001) concluded that aerobic exercises appeared to decrease the TC and LDL increases the HDL in men and women. Buyukyazi (2005) compared the lipid profiles of master athletes, recreational athletes and sedentary workers and concluded that habitual physical training favorably altered the serum lipid and lipoprotein profiles. Similarly, Lippi et al., (2006), while debating the levels of exercise required to produce beneficial/deleterious alterations in lipid profiles, conclude and recommend regular aerobic exercise as a means of favorably altering lipid profile and reducing risks for cardiovascular disease. In conclusion, although 12-week aerobic and anaerobic exercise program in addition to conventional cares of patients with type-2 diabetes mellitus produce significant improvement on coronary heart disease risk factors and health related physical fitness components over those receiving conventional cares only, its inclusion will be beneficial on

longer duration. The outcomes of this study suggest inclusion of an aerobic and anaerobic exercise program into the routine management of patients with type 2 diabetes could be beneficial.

## V. CONCLUSION

It is also concluded that due to the effect of aerobic training and anaerobic training the low density lipoprotein cholesterol of the diabetic patients was significantly improved. It is also concluded that aerobic training is better than anaerobic training in decreasing low density lipoprotein cholesterol. The result of the study produced 5.20% percentage of changes due to aerobic training and 2.88% of changes due to anaerobic training in low density lipoprotein cholesterol of the diabetic patients.

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# Intelligence and Music Aptitude of College Students in Aizawl

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## Abstract

*The present study aims to find out the level of intelligence and music aptitude of college students in Aizawl city, the capital of Mizoram, India and to compare them with reference to their gender and stream of study. It also aims to find out the relationship between Intelligence and music aptitude of college students. Results indicate that majority of college students possess average intelligence and average music aptitude. Finding also reveals that science students are more intelligent than arts and theology students, and that commerce students have higher intellectual level than the theology students. The study also reveals that female students have higher musical aptitude than the male students; that arts students possess higher musical aptitude than the science and theology students; that commerce students are better in their music aptitude as compared to the science and theology students; and that science students are superior to theology students in musical aptitude. Significant positive correlations have also been established between intelligence and music aptitude among college students. Suggestions for improving talents of college students have also been put forward.*

## I. INTRODUCTION

Intelligence is a difficult and often misused concept that has had an important impact on education. Intelligence could be defined in many ways. Human imagination, reasoning, learning, communicating skills, and problem solving could all demonstrate how smart or intelligent people really are. Society greatly values a person's intelligence, and scientists have gone to great lengths trying to measure it, therefore, one can say that intelligence is the greatest quality a person could possess.

**Intelligence:**



Smart students are able to learn material faster and easier, they are able to earn good test scores. Difficult subjects and task become effortless and simple for intelligent students. Anastasi, (1992) defines “Intelligence is not a single, unitary ability, but rather a composite of several functions. The term denotes that combination of abilities required for survival and advancement within a particular culture.” “Intelligence is that facet of mind underlying our capacity to think, to solve novel problems, to reason and to have knowledge of the world.” (Anderson 2006)

Earlier it was believed that there was one underlying general factor at the intelligence base (the **g-factor**), but later psychologists maintained that it is more complicated and could not be determined by such a simplistic method. Some psychologists have divided intelligence into subcategories. For example Howard Gardner maintained that it is comprised of seven components: **musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal.**

#### **Aptitude:**

Aptitude may be described as a special ability or specific capacity distinct from the general intellectual ability which helps an individual to acquire the required degree of proficiency or achievement in a specific field.

If one has an aptitude for music it means that one's present condition or ability reveals that if one is to learn music one would be successful. The knowledge of an individual's aptitude thus helps one to predict his future success in a particular field of activity, with appropriate training or experience.

#### **Music aptitude:**

Music aptitude is the potential for music achievement. Music achievement is the level of skill that individuals acquire based on their aptitude and music experiences. Individuals' music aptitude is not necessarily represented by their music achievement. It is possible that low music achievers may have high music aptitude. Gordon, (1987) suggested that favorable environmental influences are necessary for children to maintain the level of music aptitude with which they are born. Music aptitude is distributed normally throughout the population at birth (Gordon, 1990). Although music aptitude is innate, it is not hereditary (Taggart, 1989). That is, the level of music aptitude that individuals are born with cannot be predicted on the basis of the level of music aptitude of their parents.

#### **Music and intelligence:**

Positive relationships between playing an instrument and general cognitive abilities have been observed. Schellenberg (2006) found a correlation between the duration of music lessons and performance in a verbal and non-verbal IQ test. Forgeard et al (2008) observed a relationship between playing an instrument and higher cognitive functions that had at least 3 years of musical instruction. It is plausible that people improved their performance because listening to music elevated their mood and left those feeling more alert (Schellenberg 2005). Research indicates that music lessons change the course of brain development and, just possibly, influence children's success in other, non-musical tasks.

#### **Music and the Mizo people:**

The Mizos (people of Mizoram) are very fond of singing. They would sing not only during happy occasions but even in the event of death. Mizo traditional tunes are very soft and gentle, with locals claiming that they can be sung the whole night without the slightest fatigue. The guitar is a popular instrument and Mizos enjoy country style music. Even without musical instruments, the Mizos enjoy singing. They would enthusiastically sing together, clapping hands or using other rhythmic methods. The early Mizos were close to nature and music remains an essential part of the cultural life. Whilst gospel music remains an integral part of Mizo culture, western influence is evident from the contemporary music scene as young people experiment with rock, metal, rap, pop and hip-hop.

## **II. RATIONALE OF THE STUDY**

A thorough examination of various studies reveal the fact that research in the area of intelligence has been conducted by many researches worldwide. However, research in Musical Aptitude has been largely unexplored. Especially in Mizoram, which is one of the state in India, such a kind of study has not been taken up so far. The Mizos in general are very much interested in music and singing; therefore, it comes as a surprise that research in aptitude for music has not really been attempted. Although some studies have been conducted in the area of intelligence of Mizo students, studies of Musical aptitude among the Mizo students has never been conducted in the state of Mizoram.

Concerning the limited studies done in this area, and considering the benefit the state of Mizoram is going to harvest from the research in this area, it would be pertinent to find out the intelligence and musical aptitude of college students and compare them with respect to their gender and stream of study.

## **III. OBJECTIVES OF THE STUDY**

1. To find out the intelligence and music aptitude of college students in Aizawl.
2. To find out the differences in the level of intelligence of college students in Aizawl with reference to their gender.
3. To find out the differences in the level of intelligence of college students in Aizawl with reference to their stream of study.
4. To find out the differences in the level of music aptitude of college students in Aizawl with reference to their gender.
5. To find out the differences in the level of music aptitude of college students in Aizawl with reference to their stream of study
6. To find out the relation between intelligence and music aptitude among college students in Aizawl.

## **IV. METHODOLOGY**

The present study belongs to the category of 'Descriptive Research Survey' with features of inter-group comparison.

**Population and Sample:**

The population of the present study consists of all students studying in the colleges within Aizawl city. The sample consist of 400 students with 229 males and 171 females. 100 students each from the streams of Arts, Science, Commerce and Theology were selected

#### Tools used:

The following tools were used for the present study

- Standard Progressive Matrices – sets A, B, C, D and E. (Raven, 1995)
- Musical Aptitude Profile. (Edwin E. Gordon, 1995)

### V. ANALYSIS AND INTERPRETATION

Analysis and interpretation is done in accordance with the objectives of the study as follows:

**Objective 1: To find out the level of intelligence and music aptitude of college students in Aizawl.**

In order to find out the level of intelligence and music aptitude of college students in Aizawl, the scores from the two tests were tabulated and norms established by the investigators were used for interpretation of data. The findings were presented in the following table - 1

**Table – 1: Classification of college students with respect to their intelligence and music aptitude**

Variables	Classifications	No of students	Percentage
Intelligence	Low intelligence	80	20.00%
	Average intelligence	202	50.50%
	High intelligence	118	29.50%
Music aptitude	Low music aptitude	95	23.75%
	Average music aptitude	209	52.25%
	High music aptitude	96	24.00%

The above table - 1 shows that majority of college students are found to possess average intelligence (50.50%) and average music aptitude (52.25%)

**Discussion on the finding:** It is not surprising that majority of college students have average intelligence, because intelligence tends to be normally distributed with a small number of individuals scoring extremely high or low on the intelligence test, and most people scoring moderately. Therefore, even among the college students of Aizawl, it is found that majority of students have average intelligence.

In the same way, all persons have the potential to achieve in music. Relatively few have high aptitude, a similar number have low aptitude, and the majority of persons fall somewhere in the middle of the “bell curve” with average aptitude. The reason why majority of college students in Aizawl also have average musical aptitude could be accounted to this factor.

**Objective - 2: To find out the differences in the level of intelligence of college students in Aizawl with reference to their gender.**

The intellectual level of the students was compared on the basis of their gender. For this, the Mean and Standard Deviation of the scores were calculated. The mean differences were tested by applying 't' test and the details are presented in the following table - 2

**Table – 2: Comparison of intelligence with respect to their gender**

Groups	Number	Mean	SD	MD	SEM	t-value	Significant level
Male students	229	45.62	7.65	0.81	2.31	1.06	NS
Female students	171	46.43	7.42				

NS=Not significant

Table 2 shows that there is no significant difference in the intelligence of college students with respect to their gender. This means that although there are differences in the intellectual level of male and female students of different colleges in Aizawl, this difference is not significant enough.

**Discussion on the finding:** Studies have found that with respect to intelligence, differences between the mean of men and women are minimal or negligible, but the variability of male scores is greater than that of female, therefore men are often overrepresented at extreme scores, both very high and very low. Men are more likely to become geniuses. We find men like Albert Einstein, Stephen Hawking, Isaac Newton, Mozart or Da Vinci. But even though men produce a higher percentage of the world's geniuses they also produce more of the greatest retards too. The present study did not come across any genius or idiots at the college level. Therefore, the finding that there is no significant difference between the male and female college students with respect to their intelligence is not without a reason. It is quite justifiable.

**Objective - 3: To find out the differences in the level of intelligence of college students in Aizawl with reference to their stream of study.**

The intellectual levels of the students were compared on the basis of their stream of study. For this, the Mean and Standard Deviation of the scores were calculated. The mean differences were tested by applying 't' test and the details are presented in the following table - 3

**Table – 3: Comparison of intelligence with respect to their stream of study.**

Sl. No.	Groups	N	M	SD	MD	SE(MD)	t-value	Sig. level
1	Science students	100	47.92	5.85	2.69	.94	2.87	.01**
	Arts students	100	45.23	7.33				
2	Science students	100	47.92	5.85	1.09	.89	1.22	NS
	Commerce students	100	46.83	6.76				
3	Science students	100	47.92	5.85	4.04	1.10	3.67	.01**
	Theology students	100	43.88	9.32				
4	Arts students	100	45.23	7.33	1.60	.10	1.60	NS
	Commerce students	100	46.83	6.76				
5	Arts students	100	45.23	7.33	1.35	1.19	1.14	NS
	Theology students	100	43.88	9.32				
	Commerce students	100	46.83	6.76				



6	Theology students	100	43.88	9.32	2.95	1.15	2.56	.05*
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\* Significant at .05 level

\*\*Significant at .01 level

From table - 3 one can observe that no significant difference was found in the intellectual level between the 'science and commerce', 'arts and commerce' and 'arts and theology' college students. Whereas significant difference was obtained in the intellectual level between 'science and arts', 'science and theology', and 'commerce and theology' college students in Aizawl.

Looking at their mean, the above table reveals that (i) *Science students possess significantly higher intellectual level than the arts students.* (ii) *Science students possess higher intellectual level than the theology students* and (iii) *Commerce students are better in their intellectual level than the theology students.*

### Discussion on the findings:

(i) **"Science students possess significantly higher intellectual level than the arts students":** In our part of the world, people are considered 'successful' if only they are doctors and engineers. These are the top two 'respectable' professions for high achievers. It is a widely accepted belief that getting an education in science enables one to acquire a degree which is not only valued by society but also leads to a highly-paid occupation. Therefore, those high achievers, the more intelligent students often opt for the science stream. This could be the reason why the present study discovers science students as possessing significantly higher intelligence than the arts students. However, the investigators are of the opinion that while pursuing certain superficial goals, one tend to undermine one's personal choice. Not all minds are meant to work well in the fields of science. More often than not, it is the social pressure that plays its role. People do wonders even in the areas of arts and humanities which in itself hold a huge treasure chest of knowledge. Science education open doors in the fields of medicine, architecture, engineering, healthcare, technology and quantitative analysis, while arts and humanities offer a wide range of career prospects in social and civil service, academia, media, fine arts, tourism, linguistics and other similar areas. It is time to rid ourselves of the notion that science is the only domain for intellectuals. One should realize that to pursue a career in one's area of choice is something that eventually leads to success in professional life. Work doesn't become a burden then, and life becomes more enjoyable. Science and arts/humanities both have their own significances and should be given their due importance to keep a balance in societies. Where the former focuses on developing technical skills, the latter enhances soft skills among individuals.

(ii) **"Science students possess significantly higher intellectual level than the theology students":** Reeve & Basalik (2011) found that populations with higher IQ are likely to gravitate away from religious social conventions. Other studies have found that intelligent people are less likely to believe in God because they have an analytical thinking style, which sometimes undermine religious belief. This may be the reason why more intelligent students in Aizawl do not take up theology stream. At the same time, studies that found negative relation between intelligence and religion may not necessarily mean only dumb

people believe in God. Rather, it may only imply that more intelligent people may have less need for religion, and may find certain basic needs fulfilled outside of religion, consequently intelligent students do not opt for theology stream. Besides this, science is considered to have a better scope for future career. Therefore, the reason why science students possess significantly higher intellectual level than the theology students could be accounted to this effect.

(iii) **"Commerce students are better in their intellectual level than the theology students"**: Increasing integration of the world economy and globalization has further enhanced the importance of commerce. The study of commerce includes subjects like accounting, statistics, economics and it provides a springboard for work opportunities in a range of financial services, banking, business and industry, management and entrepreneurial ventures, law, hotel management and government services. Conversely theology is the study of religious faith, practice, and experience; *especially* the study of God and of God's relation to the world. For many, it seems pointless to study something whose mere existence has not even been conclusively established. Besides, job opportunity with excellent status is hard to come by. This could be the reason why more intelligent student in Aizawl opt for the commerce degree rather than the theology degree.

**Objective - 4: To find out the differences in the level of music aptitude of college students in Aizawl with reference to their gender.**

The level of music aptitude of college students were compared on the basis of their gender. For this, the Mean and Standard Deviation of the scores were calculated. The mean differences were tested by applying 't' test and the details are presented in the following table - 4

**Table – 4: Comparison of music aptitude with respect to their gender**

Groups	Number	Mean	SD	MD	SEM	t-value	Significant level
Male students	229	159.47	25.26	8.43	2.42	3.48	.01**
Female students	171	167.90	22.95				

**\*\*Significant at .01 level**

Table 4 shows that there is a significant difference in the music aptitude of college students with respect to their gender. When means of the two groups were compared, it was found that the mean of the female students is higher than the male students. This indicates that female college students possess a significantly higher music aptitude than the male students.

**Discussion on the finding:** Studies have found that generally, girls speak earlier, have larger vocabularies, and sing in tune earlier than boys. Because of this, parents or the community may have been motivated to train or socialize the female students, which may influence their music learning and their music aptitude. Besides, studies have shown women to be more adept than men at encoding facial differences and determining changing vocal intonations. Intonation means "producing musical tones," either with your voice or a musical instrument. Perhaps female college students of Aizawl are more skillful in determining musical tones than their male counterparts. Therefore, the findings that female

college students having significantly higher musical aptitude than male students could very well be attributed to their genetics as well as their environmental surroundings.

**Objective - 5: To find out the differences in the level of music aptitude of college students in Aizawl with reference to their stream of study.**

The level of music aptitude of college students were compared on the basis of their stream of study. For this, the Mean and Standard Deviation of the scores were calculated. The mean differences were tested by applying 't' test and the details are presented in the following table - 5

**Table – 5: Comparison of music aptitude with respect to their stream of study**

Sl. No.	Groups	N	M	SD	MD	SE(MD)	t-value	Sig. level
1	Science students	100	164.07	20.22	6.40	2.86	2.24	.05*
	Arts students	100	170.47	20.21				
2	Science students	100	164.07	20.22	7.86	3.24	2.42	.05*
	Commerce students	100	171.93	25.37				
3	Science students	100	164.07	20.22	18.24	3.09	5.90	.01**
	Theology students	100	145.83	23.41				
4	Arts students	100	170.47	20.21	1.46	3.24	.45	NS
	Commerce students	100	171.93	25.37				
5	Arts students	100	170.47	20.21	24.64	3.09	7.97	.01**
	Theology students	100	145.83	23.41				
6	Commerce students	100	171.93	25.37	26.10	3.45	7.56	.01**
	Theology students	100	145.83	23.41				

\* Significant at .05 level

\*\*Significant at .01 level

From table - 5 one can observe that significant difference was observed in the level of music aptitude between the 'science and arts', 'science and commerce', 'science and theology', 'arts and theology', and 'commerce and theology' college students. Whereas no significant difference was obtained in the level of music aptitude between 'arts and commerce', college students in Aizawl.

Looking at their mean, the above table reveals that (i) Arts students possess significantly higher music aptitude than the science students (ii) Commerce students are better in music aptitude than the science students (iii) Science students have better music aptitude than the theology students (iv) Arts students are superior than the theology students in their music aptitude and (v) Commerce students have higher music aptitude than the theology students.

**Discussion on the findings:**

(i) "Arts students possess significantly higher music aptitude than the science students": Arts stream involves the study of subjects like languages, political science, history, sociology, philosophy, psychology, etc. With a background in arts, one can pursue career options such as teaching, social work, law, politics, radio artist, acting, singing, music

and many more. This means that music is included in the broad categories of the arts stream. Besides, science is an intensive course and requires hard work, persistence and commitment. It has been realized that students taking the science stream are so busy and engrossed with their studies that they hardly have time to nurture their musical ability, therefore, it is not surprising to discover that the arts students possess a significantly superior musical aptitude than the science students in the colleges of Aizawl city.

**(ii) "Commerce students are better in music aptitude than the science students":**

Music recording industry is basically business oriented. Consequently it is much associated with commerce subject. The music recording industry offers important new business opportunities for those taking up the commerce subject. Business in recorded discs and tapes has increased over the past years. The basic resource, musical talent, is abundantly available among the Mizo youth. Perhaps there are more students with musical abilities who are also interested in gaining knowledge of the business sector amongst the college students because the present research found that commerce students possess a significantly higher musical aptitude than the science students. Thus, this may be the plausible explanation as to why commerce students excel the science students in musical aptitude

**(iii) "Science students have better music aptitude than the theology students":**

Music and science are closely related. Both use mathematical principles and logic, blended with creative thinking and inspiration to arrive at conclusions that are both enlightening and inspirational. Music composition is basically a mathematical exercise. From a basic source of sounds, rhythms and tempos, an infinite variety of musical expressions and emotions can be produced. It is the interaction of sounds, tempo, and pitch that creates music, just as the interaction of known facts and knowledge coupled with imagination, speculation and inspiration produces new scientific discoveries. Both Science and Music use "formulas" and "theories" to solve problems, and to explore the intangible mysteries of life. There are a number of scientific theories that try to explain music. This is a clear indication that music is as complex and varied as any scientific principle or theory. Besides, there is something different between science and religion. In science, experiments have an objective process by which something must be proven. In addition, when a scientific conclusion is reached, the experiment should be able to be reproduced again and again with the same results. The same cannot be said for religion. While religion can provide personal, spiritual, and emotional relief, it is not the root upon which law, government, and other things concerning the body politic should be based upon. Therefore, since music and science are closely related, this could be the reason why the present research found that science students significantly outshine theology students in their musical aptitude.

**(iv) "Arts students are superior than the theology students in their music aptitude":**

Music is an art form whose medium is sound and its common elements are pitch, rhythm, dynamics, and the sonic qualities of timbre and texture. Art is something that is created completely from the mind with or without some kind of inspiration and created on different kinds of mediums. While people would consider paintings and sculptures art, music also is considered art because crafting notes to create a song is just as difficult as



mixing paints to make a picture. The notes must be pleasant to the ear and the lyrics, if the song has any, must be able to convey a message or a feeling that people can relate to. Students taking arts are expected to be better in music than students opting for theology because as cited above, music is also one form of art. Besides, secular music was frowned upon by organized religion, as being a threat. Christian music scene never has had the competition or drive of the secular music scene, causing it to have a much lower bar. This may be the reason why the present research found that arts students excel theology students in musical aptitude.

(v) **"Commerce students have higher music aptitude than the theology students":** Music has always been the language of expressing the Christian faith. However, most of the popular music that we hear these days is obviously not religious. Songs today are able to freely address different topics such as drug, sex, violence, love etc. Music has shifted from expressing religious ideas and concepts to expressing the many secular ideas. Jazz seem to be the first genre of music to stray away from the traditional relationship between music and religion. It caused a major change in the messages of music that were presented to society. This change in the traditional perception of music led to the creation of the blues, rap, rock 'n roll, and other popular genres of music we enjoy today, that do not necessarily present religious themes. Meanwhile common themes of Christian music include praise, worship, celebration, penitence and lament. However, one should note that Christian music is also changing from the traditional music to contemporary Christian music which even includes Christian rap of the twenty first century. In this fashion, Christians are trying to preserve the message of the church while meeting the needs of an ever changing world. But, it is perhaps not easy for a religious organization to alter its music genre at par with the changing world therefore; this may be the reason why theology students have lower music aptitude as compared to the commerce students.

#### **Objective - 6: To find out the relation between intelligence and music aptitude among college students in Aizawl.**

In order to find out the relation between intelligence and musical aptitude, the coefficient of correlation between the scores obtained from both the Standard Progressive Matrices and Musical Aptitude Profile was determined. For this, Pearson product Moment Correlation Method was employed. The details of the findings are presented in the following table - 6

**Table – 6: Correlation coefficient between intelligence and musical aptitude among college students (N = 400)**

	Intelligence	Musical aptitude
Intelligence	1.000	.340**
Musical aptitude	.340**	1.000

**\*\*Significant at 0.01 level**

From the above table - 6, it is revealed that there is a positive correlation between intelligence and musical aptitude among college students in Aizawl and the relationship is significant at 0.01 level. Since a significant positive correlation  $r = .34$  is established

between these two variables, the analysis brings to light that there is positive relation between intelligence and musical aptitude which indicates that the higher the intelligence of the college students, the higher the musical aptitude of the college students and vice versa.

**Discussion on the finding:** The present study found that the more intelligent the students are, the better musical aptitude they possess. There could be many reasons for this correlation. One rationale could be that an intelligent student has greater capacity for abstract thinking and music is an abstract form of art. Theoretically, it is quite logical to believe that serious music training could significantly improve skills in non-musical cognition. For instance, students of music are required to focus attention for long periods of time; decode a complex symbolic system (musical notation); translate the code into precise motor patterns; recognize patterns of sound across time; discriminate differences in pitch; learn rules of pattern formation; memorize long passages of music; track and reproduce rhythms; understand ratios and fractions (e.g., a quarter note is half as long as a half note); improvise within a set of musical rules. If students improve these skills, they might find their improvements transfer to other domains, like language and mathematics. But one cannot rule out the idea that genes may be responsible for much of the IQ advantage enjoyed by musicians. But it seems clear that music training causes changes in the brain, and that student who seriously practices music hone a variety of skills that could be relevant in other contexts. Given evidence that certain games can enhance self-regulation and working memory, and even help dyslexic children learn to read, the notion that music training has transferable effects isn't all that far-fetched.

## VI. SUGGESTIONS

The following suggestions are proposed:

- 1) It is suggested that music class or music subject should be introduced in the school and college curriculum. One should be aware that music class had always been included in the elementary school curriculum of Mizoram once upon a time, but it had been dropped from the curriculum more than twenty years back because the Mizoram Board of School Education considers that elementary curriculum is overloaded with too many subjects. Therefore, it is suggested that music be re-introduced in the school curriculum and also to include music as one of the subject at the college level.
- 2) It is also suggested that Mizoram University should open one department of Music which offers post-graduate degree in music and a Doctor of Philosophy in Music under the School of Fine Arts, Planning & Architecture.
- 3) It is suggested that the Government should set up a number of Institutions in different parts of Mizoram specially meant for those students who possess intellectual talents. Here, Enrichment programmes of different types suited to the needs of the students may be brought in.
- 4) It is suggested to increase the merit scholarship received by meritorious students at different levels and also to provide special scholarship to those students who possess

good musical talents so that they can pursue further studies in line with their musical aptitude.

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# A Study On Financial Literacy And Investment Behaviour Of Working Women In Thanjavur District

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## Abstract

*In the ancient times, women were not allowed to even get education. Their role was purely to look after home. Their world was limited to their families. But then, the people slowly started recognizing the importance of education for women. And today, we find many highly educated women. They are progressing in real sense because in almost all sectors we find women working successfully. And of course, while doing so, they haven't forgotten their job of homemaker. On both the fronts i. e. home & job, they are doing just fine. They know how to manage work life balance. Now-a-days, we find more and more women who are financially independent. Men and women are born equal and both play an important role in the creation and development of family in particular and society in general. In the traditional family husband earns for the family and wife maintains it. Her role was mainly confined to domestic works. She creates life, nurtures, and guards and strengthens it. She plays the role of wife, mother, sister, sister-in-law, daughter, daughter-in-law, grand-daughter etc. She is the transmitter of tradition and the instrument by which the family culture is preserved.*



## **I. INTRODUCTION**

Women's role which was confined to domestic areas has now switched over to the other areas where she is competing with her male counterpart. This is due to the education she is getting, the women centered policies, programmes of the government and the job opportunities available to her in the wake of modernization, urbanization, industrialization, liberalization, globalization etc. The opportunities available to women paved the way for economic independence and their involvement in political and social sphere has increased to a great extent.

In India's household sectors contribute about 80% of Gross domestic savings. Savings and Investments are the most important sources of our economy. Savings are obtaining from present consumption for future use. Savings and Investments are sometimes autonomous coming from household as a matter of habit, but bulk of the savings and investments come from specific objectives like interest, return on investment, future needs, contingencies, precautionary motive or growth in future wealth leading to rise in standard of living etc.

Every household tends to keep some cash balance and maintain certain amount of money in the form of bank deposits to meet their transactions and precautionary needs. Investor's expectation is very important factor to be analyzed for the alternative avenues of investments. The present study focuses on measuring the expectations of working women investors. It also attempts to gauge the factors that they take into considerations before making any investments.

Many financial assets are available in the forms of bank fixed deposits, government and corporate fixed income securities, mutual fund units, common stocks, provident funds, pension funds insurance home, real estate, gold etc. Each asset has a different rate, return risk and liquidity. This research attempts to characterize and profile the individual investors in order to determine whether the variables like age income occupation designation dependent impact the risk aptitude of an investor. The findings will provide some opportunities for purveyors of financial services to be selective in their approach to various groups of individual investors.

### **1.1 What is income?**

Income is the consumption and savings opportunity gained by an entity within a specified timeframe, which is generally expressed in monetary terms. However, for households and individuals, "income is the sum of all the wages, salaries, profits, interests payments, rents and other forms of earnings received... in a given period of time". It also means, money or other forms of payment (received periodically or regularly) from commerce, employment, endowment, investment, royalties, etc.

### **1.2 What is investment?**

In finance, the purchase of a financial product or other item of value with an expectation of favorable future returns. In general terms, investment means the use money in the hope of making more money. It also means money committed or property acquired for future income.

There are basically two main classes of investment (1) Fixed income investment such as bonds, fixed deposits, preference shares, and (2) Variable income investment such as business ownership (equities), or property ownership. In economics, investment means creation of capital or goods capable of producing other goods or services. Expenditure on education and health is recognized as an investment in human capital.

### **1.3 Defining women's work and income and investment**

Women's income is always considered as a supplementary income within the family. Usually women's work/domestic work is included in the nonproductive category in the earlier censuses – showing that other categories are supposed to be reproductive. It is universally considered as, women and children in the family are consumers, not producers. (U.Kalpagam, Labor and Gender, 1994). But the growing importance of income earned by women raises many interesting issues worth serious consideration. First, it is related to the share in the total household income. Second is related to their control over the expenditure of the total household income – that means who took decisions and what are the decisions etc. Third is, after spending a considerable amount of earnings, what are the investment tools opted by women to save their earnings. During this survey, it was found that respondents were highly educated, typically employed, and almost all have savings and assets. The economic crisis has heightened women's recognition of the need to develop a financial plan that will meet long-term financial goals. Women are more involved than ever in their households' investment and financial decision making. Among the survey respondents, 95% of women were involved in financial decision-making in their households, and one-fourth was the primary decision makers. Married women played a key role in the financial decisions of their households as well. While most decisions were made jointly, 84% say they were involved in their household's financial decisions.

### **1.4 Reason for increasing popularity of investments**

Investing has been an activity confined to the rich and business class in the past. This can be attributed to the fact that availability of investable funds is a pre-requisite to deployment of funds. But today, we find that investment has become a household world and is very popular with people from all walks of life.

The following are the reasons for increasing the popularity of investment;

- Increasing working population, larger family incomes and consequent higher savings.
- Provisions of tax incentives in respect of investment in specified channels.
- Increasing tendency of people to hedge against inflation.
- Availability of large and attractive investment alteration.
- Increase in investment related publicity.
- Ability of investments to provide income and capital gains etc.

### **1.5 Factors of sound investments**

#### **(i).Liquidity**

Liquidity refers to the speed and ease with which an investment can be sold for a fair price.

#### **(ii) Risk of investment**

If returns are not stable, then the investment is termed as risky

**(iii) Capital Appreciation**

If the matured value of investments more than the initial deposit is termed as capital appreciation.

**(iv) Tax aspects of investment**

An investment which enjoy tax benefit under income tax Act

**(v) Investment Horizon**

It refers to the planned liquidation date of the investment.

**1.6 Risk associated with investment**

**1.6.1 Systematic Risk**

The entire market is moving in a particular direction either upward or downward due to political condition, economic conditions, sociological changes. It may be

- Market risk
- Interest rate risk
- Purchasing power risk etc.

**1.6.2 Unsystematic Risk**

Unsystematic risk is unique and peculiar to a firm or an industry. Unsystematic risk stems from managerial inefficiency, technological changes in production process, availability of raw materials, changes in consumer preference, and labour problems etc. It may be (i) Business risk (ii) Financial risk.

## II. REVIEW OF LITERATURE

**Palacios (2001)** in his study had observed the challenges of old age income security in India. It was found that one eighth of the world's elderly population lives in India. By 2020, about 15 % of the population will be over age 60 in Tamil Nadu and Kerala-roughly the same proportion as Australia today. The study concluded that reforms would provide current and future contributors with a viable alternative to a traditional family support system that will come under increasing strain in the course of the demographic transition.

**Suresh (2004)** in an analysis of popular perceptions said that retail investors swarmed back to the stock market in the year 2003-04. The investments of households in shares and debentures rose by a paltry 8.6 percent to Rs 5,847 crore in 2003-04. Households had deposited Rs 169000 crores in bank deposits while investments in small savings rose 19 percent. The data suggests that in 2003-04 the household investor had tuned extremely conservative.

**Karthikeyan (2001)** has conducted research on Small Investors Perception on Post office Saving Schemes and found that there was significant difference among the four age groups, in the level of awareness for Kisan Vikas Patra (KVP), National Savings Scheme (NSS), and deposit Scheme for Retired Employees (DSRE), and the Overall Score Confirmed that the level of awareness among investors in the old age group was higher than in those of young age group. NO differences were observed among male and female investors except for NSS and KVP. Savings and Investments Attitude

### III. OBJECTIVES OF THE STUDY

- ❖ To examine the investment objectives of working women investors.
- ❖ To study the life style of working women investors.
- ❖ To identify the sources influencing the scheme selection decision of working women investors
- ❖ To measure the positive and negative aspects of various investment pattern.

### IV. RESEARCH METHODOLOGY

A research design must contain the clear statement of the research problem, procedures and techniques for gathering information, the population to be studied and the methods used in processing and analyzing data (Kothari, 1999). This is a descriptive research involving the data collection from primary as well as secondary sources. In case of primary data collection a well-structured questionnaire was prepared using different scales and the data was collected from the investors through survey method. Information was gathered from various secondary sources such as journals, web sites, books and research articles etc.

#### 4.1 Population and samples

The investors who invest their money in different alternative avenues are treated as the population of the study. Thanjavur District is the geographical area of the present study. As the population is infinite one the method of selecting the sample investor is a difficult process. Here the respondent who have been working in private and government undertakings are considered as the appropriate sample of the study. 250 self-administered questionnaires were administered on the participants and they were briefed about the purpose of the study, and given enough time to fill out the questionnaire So, those investors have been selected at random from eight revenue block of the Thanjavur District. There are Thanjavur Town, Kumbakonam, Papanasam, Thiruvidadimarudur, Orathanadu, Pattukkottai, Peravurani and Thiruvaiyaru. Representation has been given to every type of stratum viz., rural- urban, income category, occupation, educational qualification etc.

#### 4.2 Dimensions of the Study

The present study takes the following dimensions for its analysis.

- The demographic profile of the investors
- Investors Profile of the investment
- Attitude of the investors
- Risk factor of the investment
- Investors expectations
- Motivational factor of investors
- Investors Satisfaction towards investment

#### 4.3 Hypothesis of the Study

- ❖ There is no significant association between demography of the investors and investment pattern
- ❖ There is no significant association between demography of the investors and risk factor



- ❖ There is no significant association between demography of the investors and expectations.
- ❖ There is no significant association between demography of the investors and their attitude.

#### 4.4 Analytical Tools

Apart from the percentage analysis, the study takes chi square test, ANOVA, Regression Analysis, correlation analysis, multiple regression, Standard Deviation, and factor analysis.

### V. ANALYSIS AND INTERPRETATION

**Table 5.1 -Age wise Classification of the Respondents**

S.No	Age	No. of Respondents	Percentage
1	26 to 35 years old	142	57
2	36 to 45 years old	57	23
3	46 to 60 years old	51	20
<b>Total</b>		<b>250</b>	<b>100</b>

Source: (Primary Data)

From the above table it was inferred that 57% of the respondents are 25 - 35 years. 23% of the respondents belong to the age group of 36-45 and the remaining 20% of the respondents belong to the age group of 46-60.

**Table 5.2 Distribution of Respondents by their Educational Qualification**

S.No	Qualification	No. of Respondents	Percentage
1	Professional Degree	82	33
2	Post - Graduation	104	42
3	Under - Graduate	38	15
4	Diploma and Others	26	10
<b>Total</b>		<b>250</b>	<b>250</b>

Source: (Primary Data)

The study reveals that 104 (42%) respondents out of 250 Post-Graduates and above. The remaining employees are professional, technical and Diploma level educated persons.

**Table 5.2(A): Family Type wise Classification of the Respondents**

S.No	Family Type	No. of Respondents	Percentage
1	Joint	62	25
2	Nuclear	188	75
<b>Total</b>		<b>250</b>	<b>100</b>

Source: (Primary Data)

The study further reveals that 188 (75%) respondents out of 250 Nuclear family type. The remaining women's are having Joint Family type.

**Table 5.3 Distribution of Respondents by their Marital Status**

S.No	Marital Status	No. of Respondents	Percentage
1	Married	180	72
2	Unmarried	55	22
3	Divorced	15	6
<b>Total</b>		<b>250</b>	<b>100</b>

The study further reveals the marital status of the women employees. Out of 250 respondents selected for the study, as many as 180 (72%) are married employees.

**Table 5.4: Distribution of Respondents by their Working Industry**

S.No	Work Industry	No. of Respondents	Percentage
1	Government organization	42	17
2	Private organization	208	83
<b>Total</b>		<b>250</b>	<b>100</b>

Source: (Primary Data)

From the above table it is inferred that 17% of the respondents are working in Government organization and 83% of the respondents are working in Private organization.

**Table 5.5 Distribution of Respondents by their Annual Income**

S.No.	Monthly Income	No. of Respondents	Percentage
1	10,000 - 20,000	107	43
2	20,000 – 40,000	52	21
3	40,000 – 60,000	71	28
4	Above 60,000	20	8
<b>Total</b>		<b>250</b>	<b>100</b>

Source: (Primary Data)

Nearly 43% of the respondents are having a monthly salary between Rs.10, 000-20,000.

**Table 5.6: What are their main preferred tools for investment?**

Percentage, Mean and standard deviation of respondent's responses on categories where they invest their money							
Options	Degrees of Agreement						Std. Deviation
	Strongly Agree	Agree	Neutral	Dis Agree	Strongly Disagree	Mean	
Fixed deposits with banks	225	73.33	40	16.67	1.67	3.57	1.81
Mutual funds	8.33	26.67	20	6.67	16.67	0.78	0.15
Stocks/ shares	8.33	20	10	23.33	20	0.82	0.13
Gold	166.67	100	45	20	10	3.42	1.71
Real estate	25	40	10	23.33	13.33	1.12	0.08
Fixed deposits with companies	0.00	13.33	20	16.67	11.67	0.62	0.27
Insurance	58.33	80.00	85	20	3.33	2.47	1.04
Post office/ PPF/ Government scheme	50	33.33	25	13.33	8.33	1.3	0.21
Any other	0.00	0.00	0.00	0.00	1.67	0.02	0.7

Since most of the respondents surveyed mentioned that their income was not the major source of earning for their family, whatever they earned only doubled up in total family investment in various sectors. The findings were as follows,

- They preferred to save their wealth in fixed deposits with banks.
- Second option preferred by them was to invest in gold by buying jewellery
- The third preferred option was insurance schemes.
- In the fourth slot, there was a tough competition between post office/PPF schemes and real estate, where post office and government schemes was picked up.

**Table 5.7: Percentage, Mean and standard deviation of respondent's responses on their main reasons of investment**

Percentage, Mean and standard deviation of respondent's responses on their main reasons of investment							
Main Reasons for Investment	Degrees of Agreement						Std. Deviation
	Strongly Agree	Agree	Neutral	Dis Agree	Strongly Disagree	Mean	
High Returns	333.33	46.67	10.00	20.00	1.67	4.12	2.2
Tax benefits	25.00	80.00	25.00	16.67	8.33	1.55	0.39
Emergency need	16.67	33.33	55.00	10.00	3.33	1.18	0.13
Retirement plans	33.33	60.00	20.00	23.33	15	1.52	0.47
Security for the family	8.33	6.67	15.00	16.67	5.00	0.52	0.34
Education of children	16.67	33.33	30.00	13.33	6.67	1.00	0.00
Marriage of children	0.00	20.00	10.00	6.67	3.33	0.4	0.32
To spend later in life	33.33	40.00	20.00	10.00	13.33	1.17	0.42
Others:	8.33	20.00	15.00	6.67	3.33	0.53	0.33

- The main reasons voiced by the respondents for investment in various tools were high returns followed by retirement plans and to spend later in life.
- They also mentioned that tax benefits also lured them towards safer investment options

## VI. FINDINGS OF THE STUDY

- ❖ 17% of women investors are government employee. They get more income and allowances. So their contribution to invest is higher than others.
- ❖ The majority (72%) of the women investors are married. The savings of the married women investors are more than unmarried investors. Because the responsibilities of them are increased after marriage.
- ❖ The most vital problem spotted is family commitments and frustration. Only 40% of the investors invested in capital market instruments.
- ❖ Maximum (62%) of the investors attitudes are control over their expenditure.
- ❖ The majority (64%) of the women investors expected safety of their investment.

## VII. SUGGESTIONS

- Women investors must resolve the problem of their limited movements which itself is a hazard for their development by breaking through by some means or other. They must switch over their aptitude from traditional investment to speculative investment.

- Apart from all these things the economic policies of the government should be closely watched by any investor. The economist and policy makers should not hesitate to warn the government in case of adverse change in economic policies.
- Each and every citizens of the nation is either directly or indirectly responsible for the inflation rate. So, the investing public should think properly and protectively, that reduces the impact of inflation.
- Working women investors also hesitate to invest in marketable securities. So, it is evident that a wide publicity through media be done.
- The policy “invest for Tomorrow” should be inculcated in the minds of the young generation.

## VIII. CONCLUSION

The position and status of women in any society is an index of the socio-economic and cultural achievement of that society. They have been subjected to some changes in the position of women in India over the years but these changes are not uniform. Women small investor's options are thus limited only to the traditional investment scheme. They can't take the risks of putting their money in speculative financial institutions. Devoid of a concrete option, they prefer to put most of their investment in financial securities. As for small investors their frustration has rarely been obvious. There are no new avenues for savings or is there any social security network. They are forced to keep most of their investments in traditional investment securities when they should have been looking for diversified investment.

## IX. SCOPE FOR FURTHER STUDY

Although the study yields significant insights, certain limitations are worth addressing. The study has used random sampling for selection of respondents. This may result in selection bias and limit the generalizability of the findings. The study has not taken foreign investment into consideration, which might have imparted greater significance to the outcome. The survey area of the study is confined to Thanjavur District, which again restrict results. The results are also subject to response biasness. Wider area of coverage maybe considered in future research for more generalizable findings.

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# Temporal Analysis Of Cropping Practices In Village Savali Of Sangli District

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Subject Area

Geoinformatics

Keywords

Agriculture, Cropping Practices, Cropping Trends, Landuse, Savali

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## Abstract

*Agricultural crops meet the demands of food supply. The cropping practices are very important aspect because food is one of the basic needs. The local agricultural pattern is very much important as it is associated with regional and further national level. Village is the first administrative unit in planning and decision making process. The national cropping scenario is generated by merging all villages together. Due to various reasons, there might be temporal transformations in cropping practices of a village. Hence regular appraisal of agricultural conditions of a village is essential. Therefore through this paper an attempt is made to comprehend the cropping practices / agricultural landuse of village Savali in Miraj tahsil of Sangli district. This study is mainly based on primary data. The collected data is systematically arranged and analysis, discussion is made on derived results.*

## I. INTRODUCTION

Agriculture around the world will face tremendous pressure for intensification over the next 50 years. According to United Nations forecasts (2012) the world population will increase by one third from 2013–2050. This will dramatically increase the demand for food. Agricultural cropping practice is a complex process of interaction between the physical input - output relations of the agricultural system and the social and economic milieu of the national economy (Ratnam, 2014). About 60 per cent of the Indian population still dependent on agriculture and it is having significant effect on our economy. Agricultural land use meets the demands of food supply and there might be temporal changes in cropping practices due to several reasons. Village is the first administrative unit in planning and



decision making process. The comprehensive picture of agricultural condition / cropping pattern at nation level is generated from merging all villages together. Hence detail study of agricultural conditions of village is very much important. The countries like China, India and other developing nations are shifting from agrarian to industrial economies; as a result their demand for food, energy and natural resources will increase with rising income (Wu and Li, 2013). In coming day's micro level agriculture landuse will be having great importance in forming future agricultural policies. Through this paper an attempt is made to comprehend the agricultural landuse of village Savali in Miraj tahsil of Sangli district, Maharashtra.

## II. AIM AND OBJECTIVES

The main aim of this paper is to comprehend the agricultural cropping practices of village Savali for one decade. The other related objectives are:

- To study the agricultural crops and its trends in the period of one decade i.e. 1995-96 to 2005-06.
- To depict the parcel level cropping pattern through maps and generate thematic maps to understand the agricultural landuse of village.

## III. STUDY REGION

The area selected for the study is village 'Savali'. This is a small village located in Miraj tahsil of Sangli district within coordinates of  $16^{\circ} 46' 28''$  to  $16^{\circ} 53' 45''$  North Latitude and  $74^{\circ} 31' 08''$  to  $74^{\circ} 40' 51''$  East Longitudes which covers 536 hectares area. This village is 7 km's from Sangli and 6 km's from Miraj at triangular location near Maharashtra Industrial Development Corporation (M.I.D.C.) sector.

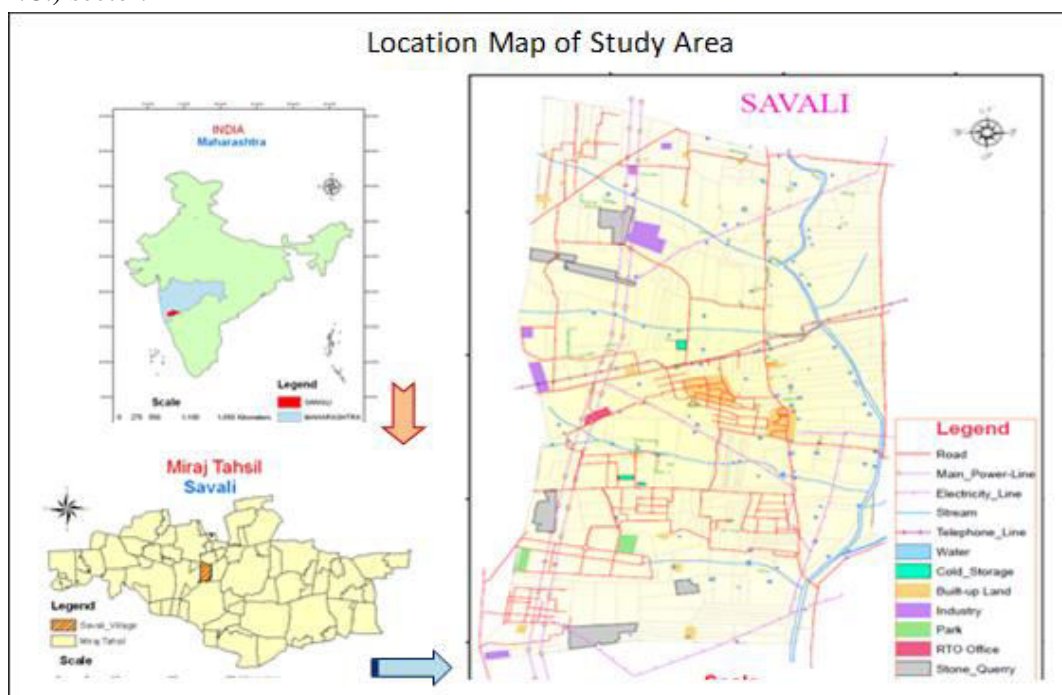


Figure 1: Location Of study Area



#### IV. DATA USED TO CONDUCT THIS STUDY

This study is carried out with the help of primary data. The agricultural landuse survey is conducted to collect crop data. Parcel wise agriculture landuse is mapped for the base years of the study period i.e. 1995-96 and 2005-06. During these years the personal field visits are made to all agricultural land parcels and checked the taken crops. The data collection task is associated with B.A.-III, Geography students of Willingdon College Sangli. This data is cross checked with the revenue records from Talathi office. The other available reports and census data is used to conduct this study. The Survey of India toposheet, Satellite Image and cadastral map of village is also used for base mapping.

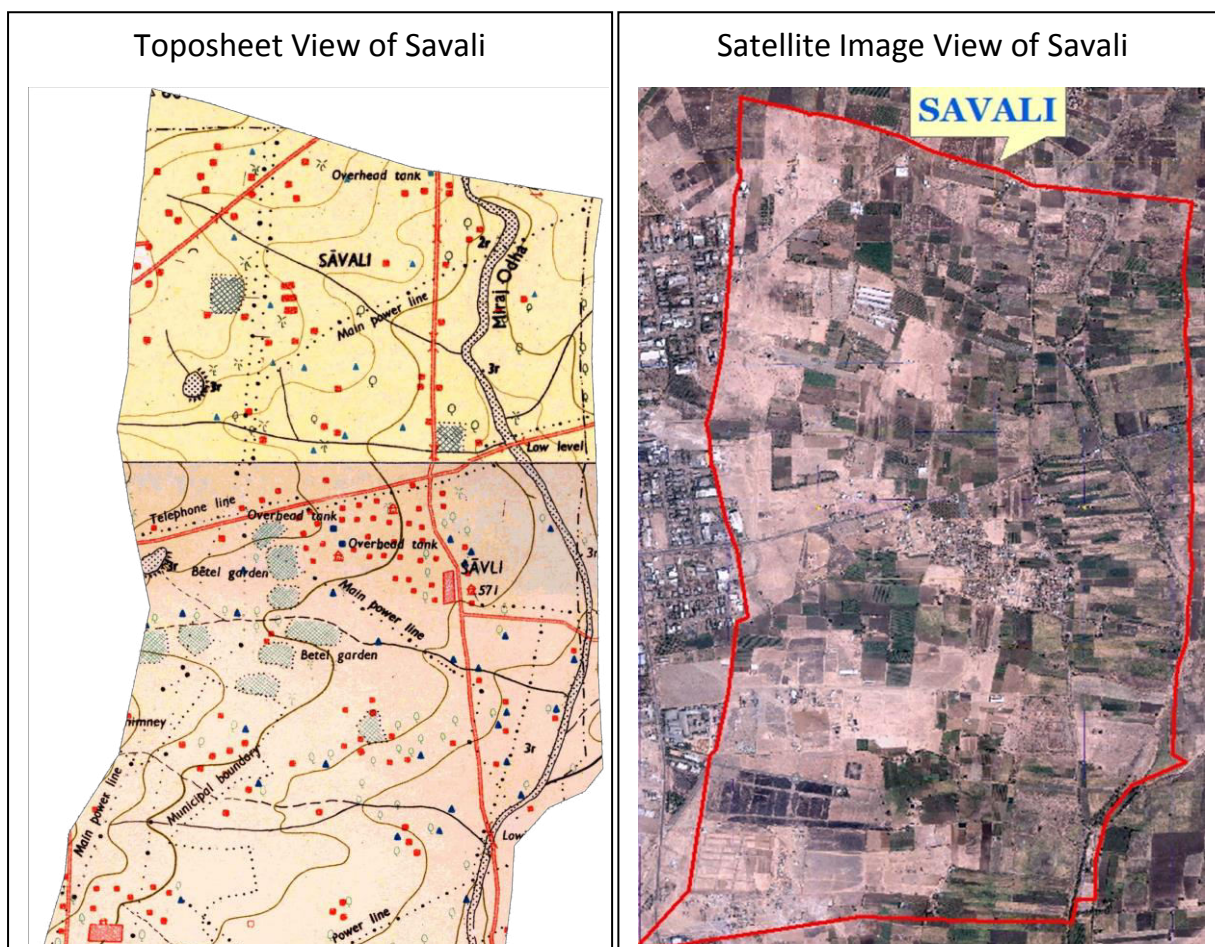


Figure 2: Survey of India toposheet, Satellite Image and cadastral map of village is also used for base mapping.

#### V. METHODOLOGY

The primary data of parcel level landuse is collected in two phases. During first phase when author was student that time first base year (1997-98) data was collected and for second base year another survey was conducted. During field survey parcel wise cropping data is collected. The cadastral level village map is georeferenced using GIS software. The shape file is prepared for each parcel and cropping attributes are added to respective parcels. Based on the attributes thematic maps of agricultural landuse are prepared for respective

years. The crop wise data is tabulated and graphical representation is made to understand the cropping trend of individual crop. This analysis is used to realize the cropping trends and agricultural landuse status. The interpretation of derived results is carried out and conclusion is made.

## VI. RESULTS AND DISCUSSION

Agriculture meets the growing demands for food and fiber. Agriculture supports as a food source for man and his livestock as well as the mode of economy. Due to this there is hidden competition for land around the world and land is utilized by different ways (Wu and Li, 2013).

### 6.1 Cropping Practices

In an agriculture system the cropping system should provide food for the farmer, fodder for his livestock and also generate cash income. Generally the intensive cropping pattern is adapted when land is limited. The water and labour is playing important role in Indian agriculture system. The sufficient water and cheap labour leads the cultivation of vegetable crops and horticulture cash crops. The crops like grapes, pomegranate required capital, labour, suitable land and weather. Capital intensive crop like sugarcane, banana, turmeric etc. find a space in the cropping system if farmer is well capable from all sides.

**Table 1: Agricultural Cropping Practices – 1995 to 2005 (Area in Ha.)**

Sr No	Crop Name / Year	1995 - 1996	1996- 1997	1997 - 1998	1998- 1999	1999- 2000	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005
1	Jowar	82.35	49.24	75.70	29.20	24.20	23.3	25.30	0.00	34.57	31.11
2	Soyabeen	184.33	213.45	139.12	201.20	182.88	189.8	180.50	0.00	197.40	207.63
3	Groundnut	29.18	27.18	55.30	51.30	49.40	45.3	49.40	0.00	25.17	19.14
4	Bajara	0.60	0.8	0.30	0.00	6.10	2.5	1.40	0.60	2.73	0.34
5	Sugarcane	43.55	45.12	52.00	58.20	63.00	65.2	60.20	7.50	5.68	4.86
6	Grass	1.91	2.1	4.60	3.20	5.15	6.3	5.70	11.70	15.29	17.42
7	Vegetable	2.10	3.21	6.50	6.10	10.50	11.5	14.30	17.50	25.02	26.12
8	Plantation	3.40	3.4	3.20	2.20	1.00	1.2	3.40	3.40	10.73	1.03
9	Tur	1.61	0.7	1.50	2.50	1.70	2.1	3.30	0.00	10.73	13.12
10	Pan-mala	11.44	3.2	4.50	5.30	4.60	4.4	4.00	4.20	4.20	2.01
11	Grapes	17.10	22.6	24.30	25.20	28.00	29.2	31.90	36.60	43.37	43.10
12	Other Fruits	2.02	4.8	5.60	1.20	3.42	3.4	4.20	4.30	4.75	3.54
13	Maka	0.50	1.2	2.60	6.40	4.50	2.25	2.10	1.20	7.13	1.48
14	Flowers	1.50	3.7	4.80	1.20	0.90	0.8	1.20	0.60	2.66	1.19
15	Tobacco	0.30	0.8	0.80	4.10	7.00	7.4	6.60	4.10	9.28	6.27

Source: Based on Survey reports of Village Savali and records of Talathi office (1995 - 2005)

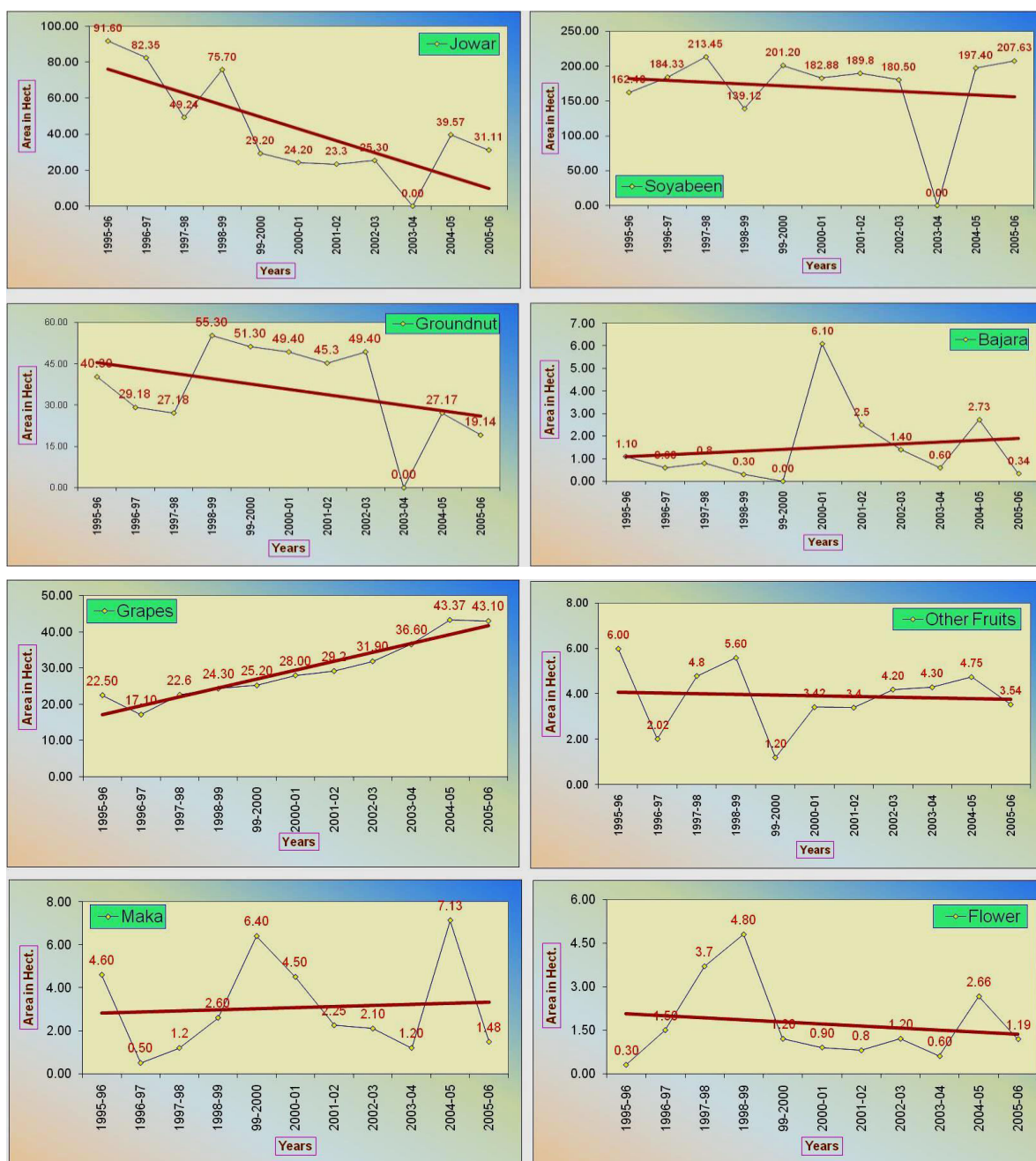
Soyabeen and Jowar are the main crops cultivated in the village. The farmers were turned to cash crops as a result the share of cash crop seems increasing. In year 2003-04 due to late monsoon, area under crop was less. Rest of the year the cropping pattern seems quite stable. Figure-2 is showing the toposheet view and satellite view of the village. The satellite view of the village represents open and developing plots at western edge, along MIDC

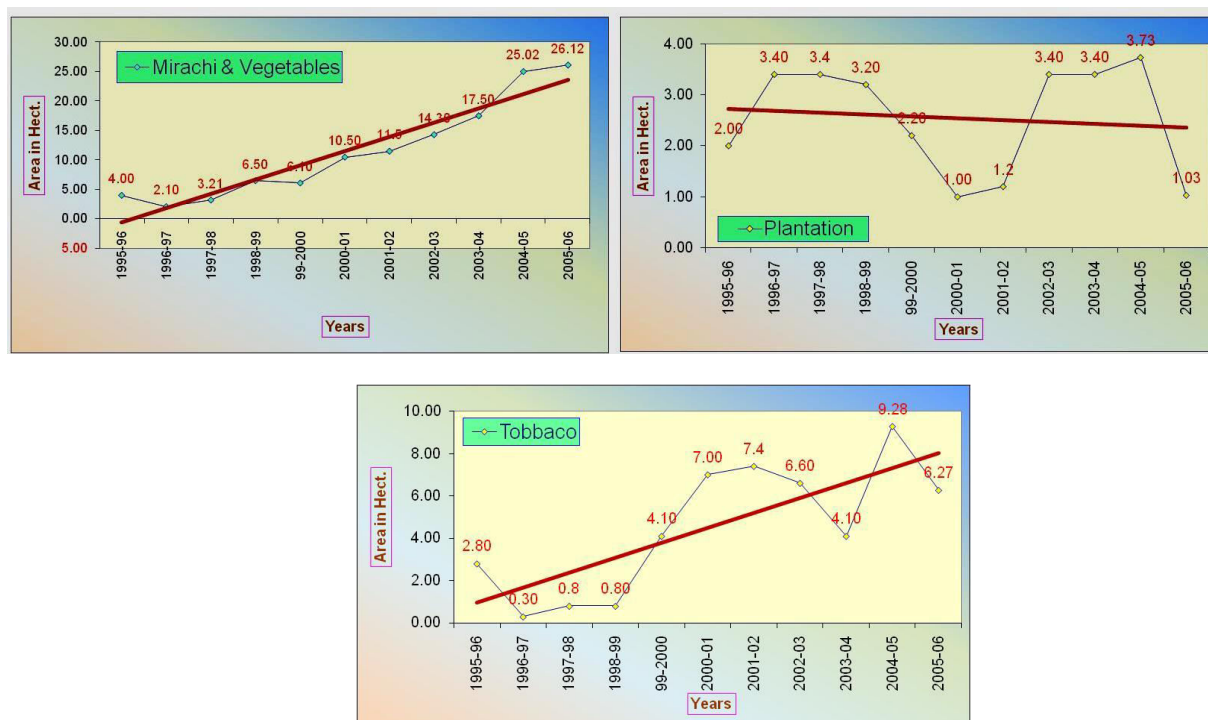


border. The Savali village is out of M.I.D.C. as well as Municipal area therefore many new industries, cold storages and habitats have come in to existence.

## 6.2 Cropping Trends

Cropping pattern is the proportion of area under various crops at a point of as it changes over space and time. The cropping patterns of a region are closely influenced by the geo-climatic, socio-economic, historical and political factors (Hussain, M. 1996). Table -1 represents the area under different crops in the study area. There are about 15 major crops cultivated in the village Savali. Each crop is having up and downs trends due to several reasons.





**Figure 3: Trend of individual cropping pattern in period of one decade**

Figure 3 is the representation of trend of individual cropping pattern in period of one decade. The use of graphical representation is made with its trend line. The cropping pattern shows that crops like panmala (battle leaves), sugarcane, bajara, groundnuts, etc. is reduced. On the contrary crops like tobacco, grapes, tur, vegetables, etc. are having increasing trend. There are several reasons due to that the cropping pattern is changing like good price to sugarcane, grapes, vegetables, tobacco, etc. Hence the farmers are turning towards these crops. The crops like soyabean and other fruits are quite constant and stable trend because its area is neither increased nor decreased. The red soil suitable for Bajara crop hence earlier it was grown in some patches but that area is now converted in to residential built-up area.

There is no doubt that productivity of different crops increased due to irrigation facilities, advance techniques and intensive agriculture techniques (Goyal and Kumar, 2013). The cropping systems are the cumulative results of past and present decisions by individual farmer, communities or government. These decisions are usually based on experience, tradition, expected profit, personal preferences and resources, social and political pressures and so on. Farming is the prime activity of the residents of village Savali but adjacent MIDC and nearby urban settlement influenced the cropping practices at greater extent.

### 6.3 Parcel Wise Agricultural Landuse

The spatio-temporal mapping is very much useful for the comparative analysis. Figure 4 represents the parcel level temporal mapping of agricultural crops. The cropping condition of Kharif and Rabi seasons for both base years i.e. first (1995-96) and last (2005-06) is



surveyed and mapped using GIS software. These maps are self explanatory and clearly depict the agriculture landuse conditions.

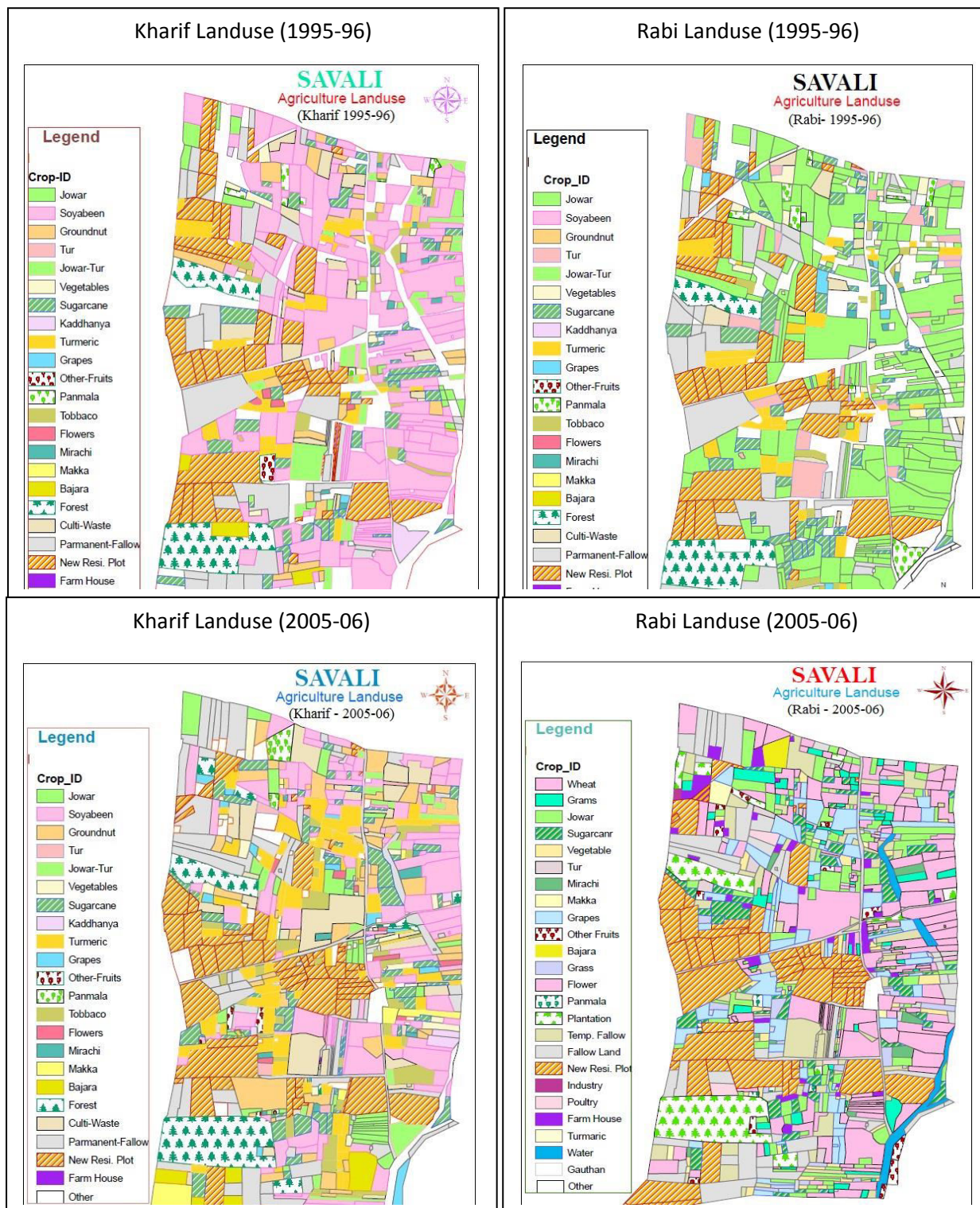


Figure 4

In Kharif season of year 2005-06 the dominant crop was again Soyabean but its share is drastically came down and area under groundnut is increased. Also many land parcels practicing grapes cultivation which is a cash crop for long term. In Rabi season of 2005-06 Wheat was the dominant crop and second major crop was Rabi Jowar. The rest of the crops are having very small share among all. But crops like Sugarcane, Vegetables, Battle leaves, etc. have considerable share in the cultivation. In first base year i.e. 1995-96 in Kharif season, the Soyabean was the major crop cultivated in most of the land parcels (Fig. 4 - A). The newly constructed built-up is also occupied quite big area which is demarcated with brown colour with slanting lines. The share of rest crops is seems pretty less. In Rabi season the dominant crop was Rabi Jowar which is represented with green colour. In year 1995-96 the crop diversity seems very low where Soyabean was the only main crop in Kharif season and share of other crops was quite low. At the same time in Rabi season Jowar was dominant one. On the contrary in year 2005-06 the crop diversity seems more for Soyabean and Jowar. The crops like Grapes, Sugarcane, Groundnut, Vegetables, etc. was cultivated on considerable proportion. It is due to the irrigation facilities, good returns from cash crops and other various reasons. But important thing is that the agricultural land use posses numerous changes.

## **VII. CONCLUSION**

The regular appraisal of agricultural cropping practices is important because it represents the actual condition of particular time period as well as the changing scenario of that region. In case of general land use of village Savali the cultivated land is reduced and proportion of open land, roads, built-up area, etc. are increased. The western edge along with MIDC border is converted into developing land. Village Savali is adjacent but out of M.I.D.C. and Municipal area therefore many new industries, cold storages and habitat have established in this area.

The cropping pattern shows that crops like panmala (battle leaves), sugarcane, bajara, groundnuts, etc. are having decreasing trend. On the contrary crops like tobacco, grapes, tur, vegetables, etc. are containing up trend. There are several of reasons due to that the cropping pattern is changing the main cause is good returns from cash crops like sugarcane, grapes. In other words the crops like grapes, vegetables, tobacco, tur are getting good price hence farmers are turning towards these crops. Some crops have maintained constant trend i.e. crops like soyabean and fruits. The base year analysis shows that in year 1995-96 soyabean and jowar was the dominant crop on the other hand in year 2005-06 multiple crops were cultivated. The graphical representation shows individual trend i.e. up and down. The parcel level mapping is useful for comparative analysis by temporal aspect. Adjacent MIDC sector and nearby urban settlement influenced the cropping practices at greater extent. The positive change is the small land holding farmers are cultivating vegetables which is been sold in nearby urban area and they get fair amount in return. At the same time as negative impact the land under agricultural is decreasing and the share of Non-Agricultural parcels is gradually increasing.

In short village Savali is experiencing change in cropping practices. Change is product of time and it may be positive or negative but its study is useful to take steps accordingly. The increasing share of cash crop and crop diversification is a good sign as far as development of respective village is concern.

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# Analysis and Role of Library in Information Behaviour of Journalists of Bhopal City

Paper ID	IJIFR/V4/ E1/ 010	Page No.	4852-4858	Research Area	Journalism
Keywords	Journalists, Designation, Qualification, Gender, Information, Library				

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## Abstract

*This paper presents the findings of a study carried out to understand details of journalists in terms of their designation, qualification, age, gender of working journalists in Bhopal; Capital city of Indian province of Madhya Pradesh, and the role of library in their information seeking behavior. The questionnaire was administered to journalists in Bhopal city. Out of One hundred eighty questionnaires distributed, 168 questionnaires were received back, which reveals a good response. Analysis reveals an interesting figure in terms of designation, age, gender, and departments where journalists were working. Library has been a good source of knowledge enhancing for the journalists.*

## I. INTRODUCTION

The term 'information-behaviour' is used here to include all activities comprising information-seeking, information-gathering, information receiving and communicating. Information-seeking precedes gathering and information-gathering most of the times implies seeking. The attempt of the user in obtaining the needed information results from the recognition of some need, perceived by the user and this can be the appropriate description of Information seeking behaviour. According to Talja (1992) information needs arise when an individual finds himself in a problem situation, when he or she no longer can manage with the knowledge that he or she possesses. It is the information need that triggers information seeking which is caused by "uncertainty due to a lack of understanding, gap in meaning, or a limited construct" (Kuhlthau 1993).

## II. LITERATURE SURVEY

Musib (1991) studied information-seeking patterns in rural areas of West Bengal, India, and revealed that initial learning of technology, the respondents depend much upon fellow



professionals (88.03%) and family members (71.79%). It was found that 50.42% of respondents were aware of the existence of a public library, however, 75.21% of respondents showed willingness towards public library. Edem (1993) reported that that over 70% of journalists in Nigeria was unaware of their information needs. Guha (1993) studied the information seeking and communication behavior of Indian Scientists and observed that 28% respondents visit libraries to select and borrow books, more than 26% to browse through new books, nearly 12% to consult abstracting the indexing periodicals and over 12% to consult reference books. Campbell (1997) carried a study of Scottish journalists concluded that Scottish journalists were unaware of the basics of information retrieval, searching electronic databases, applications of search logic and search terminology and syntax". Nicholas et al (2000) investigated the impact of the Internet by surveying both journalists and media librarians, and reported that 68% of their respondents used the Internet. Poteet (2000) studied the use of online sources by 175 journalists working at two American metropolitan newspapers using a questionnaire. All of her respondents used the Internet, with 93.0% of them feeling comfortable using it. Millen and Dray (2000) studied the use of a particular listserv by American journalists who were early adopters of digital technologies. Their study indicates that there are reporters who have a positive, active relationship with technology and that they found it to be useful in their work. Attfield & Dowell (2003) studied information seeking and use of 25 journalists working at The Times in London by conducting interviews. They presented their findings "in the form of a model of the newspaper report research and writing process" that consisted of "initiation, preparation and production in the context of a set of dynamic product and resource constraints". Chen (2004) reported that one of the core tasks for most journalists in their daily routine is gathering and providing information for the public. Anwar et al. (2004) investigated the information seeking behaviour of working journalists in Kuwait. In terms of the type of information, they placed emphasis on fact-checking, general and background information. Information was obtained by using a wide variety of both informal and formal sources. Chester and Neelameghan (2006) discussed the types of knowledge, skills, and experience that an information professional (IP) needs to acquire within and outside the formal. Birinci (2007) reported that among user studies, which date to the 1940s, historians have become subject of various researches since the 1970s.

### III. RESEARCH OBJECTIVES

The purpose of this study was to study the details of journalists in terms of their designation, qualification, age, gender of working journalists in Bhopal; Capital city of Indian province of Madhya Pradesh, and their way of information seeking behavior through some of the library activities.

### IV. RESEARCH METHODOLOGY

Research Methodology is a way to systematically solve the research problem. It is a study of various steps that are generally adopted by an investigator in study research problem along with the logic behind them.

### Tools Used (Administration of the Questionnaire)

For this study the investigator used observation and Questionnaire as tools for data collection/to collect information from journalists. The questionnaire was administered to journalists in Bhopal city. Out of One hundred eighty questionnaires distribute, 168 questionnaires were received back duly filled in by the respondents, which reveals a good response. Interview technique was used to obtain information from the users.

## V. RESULTS AND ANALYSIS

### 5.1 Qualification of the Journalists

Academic qualifications of the 168 journalists working in Bhopal city are tabulated in Table 1. Out of 168 journalists, 14.28% (24) possess Diploma in Journalism, while 35.71% (60) journalists have Bachelor Degree in Journalism, 19.6% (33) possess Master Degree in Journalism, and only 5.36% (9) have acquired Ph.D. Degree. A very high percentage 48.21 (81) journalists possess 'Other Degree' like Arts, Science, and Commerce, etc.

**Table 1: Academic Qualification of the Journalists**

Qualification	No. of Journalists	Percentage
Diploma in Journalism	24	14.28
Bachelor in Mass Comm. & Journalism	60	35.71
Masters in Mass Communication & Journalism	33	19.6
Ph.D.	9	5.36
Any Others	81	48.21
	168	100

### 5.2 Designation of Journalists

Details of designation of journalists are given in Table 2. Out of 168 journalists; 14.29% (24) journalists are Chief Editors, 26.78% (45) Editors, 33.93% (57) correspondents, 3.57% (6) News Readers and 21.43% (36) belong to Other Categories like Bureau Chief, News Produces, Copy Editor and Media Head etc.

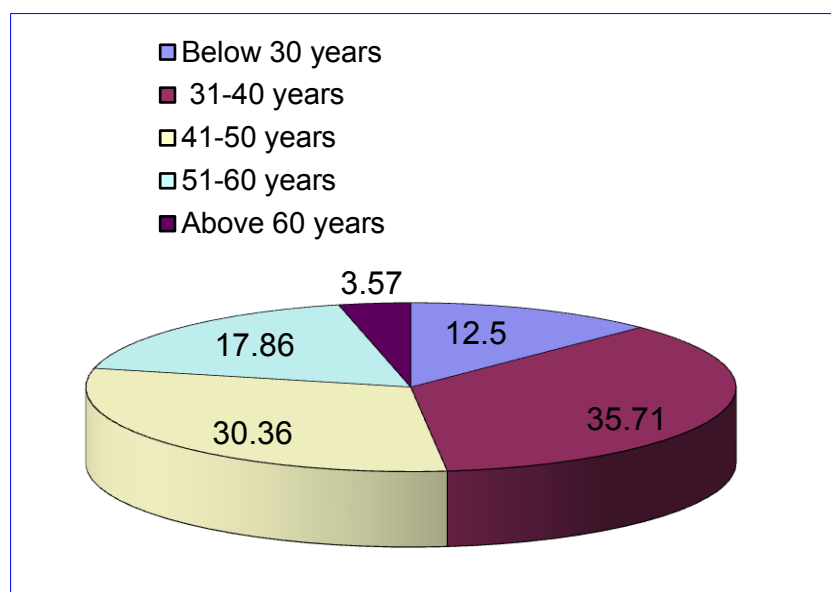
**Table 2: Designation of Journalists**

Designation	No. of Journalists	Percentage
Chief Editors	24	14.29
Editors	45	26.78
Correspondents	57	33.93
News Readers	6	3.57
Others	36	21.43
	168	100.00

### 5.3 Age of the Journalists

Age of the journalists working in Bhopal city is shown in Figure 1. Out of 168 journalists who responded, only 12.5% (21) journalists are having age below 30 years whereas 35.71%

(60) journalists are in the age group of 31-40 years, 30.36% (51) between 41-50 years, 17.86% (30) between 51-60 years, and 3.57% (6) are above 60 years of age.



**Figure 1: Age of the Journalists**

#### 5.4 Gender of the Journalists

Gender distribution of the journalists working in Bhopal city; out of 168 journalists, majority of them 85.71% (144) are male whereas 14.29% (24) are female.

#### 5.5 Department of the Journalists

Departments where journalists work are given in Table 3. Out of 168 respondents, 58.93% (99) of journalists belongs to Editorial department, 7.14% (12) are from Administrative department, 30.36% (51) from Government department, and 3.57% (6) are from other departments.

**Table 3: Department of Journalists**

Department	No. of Journalists	Percentage
Editorial	99	58.93
Administrative	12	7.14
Government	51	30.36
Others	6	3.57
	168	100.00

#### 5.6 Experience of the Journalists

There are 12.5% (21) journalists are having journalism experience up to 5 years whereas 12.6% (21) journalists have 6-10 years of experience. 28.57% (48) journalists have 11-15 years experience, 32.14% (54) have 16-20 years, and 14.29% (24) have more than 20 years of journalism experience.

### 5.7 Usage of the Library

Usage of the library by the journalists of Bhopal city; 42.86% (72) journalists always use the library whereas 53.57% (90) journalists use library sometimes. However 3.57% (6) journalists have indicated that they never use library.

### 5.8 Type of Journalism Experience

Experience of the journalists in various field of journalism is given in Table 4. It can be seen from these results that large numbers of journalists 42.86% (72) exclusively have Print Media.

**Table 4: Experience in the Field**

Type of Experience	No. of Journalists	Percentage
Print Media	72	42.86
Television	15	8.92
Radio	6	3.57
Print +Television+ Radio	24	14.3
Print+ Television	30	17.86
Print+ Radio	6	3.58
Television+ Radio	9	5.36
Print + Any Others	3	1.78
Print+ Television + Any Other	3	1.78
	168	100.00

### 5.9 Sources of Information for Journalism Related Work

Journalists use various types of sources for getting the information for journalism related work. Table 5 gives the sources of information used for journalism related work by the Bhopal city journalists. 62.5% (105) journalists use library for seeking information, 44.64% (75) use Teleprinter as a source of information, 60.71 (102) journalists use reporters as source of information, 33.93% (57) use Feature Agency, 58.93%(99) use Television as a source of information, 69.64% (117) uses internet, and 33.93% (57) use Radio.

**Table 5: Sources of Information for Journalism related work**

Sources of Information	No. of Journalists	Percentage
Library	105	62.5
Teleprinter	75	44.64
Reporters	102	60.71
Feature Agency	57	33.93
Television	99	58.93
Internet	117	69.64
Radio	57	33.93

### 5.10 Time spent by Journalists in Library and Internet Facility in the Library

Time spent by the journalists in the library; 14.29% (24) journalists indicated that they spent half-hour in the library, 62.5% (105) spent one-hour, 7.14 (12) spent two-hour, and 12.5%



(21) spent more than two-hours in the library. 3.57 % (6) journalist mentioned that it is not applicable to them.

Availability of internet in the library of the journalist's organizations; 58.23% (99) journalists have access to internet in their library while 41.07% (69) journalists do not have access to internet in the library.

### 5.12 Helpfulness of Library in collecting Information

The extent by which libraries are helpful in collecting information; 51.79% (67) journalists stated that library is 'always helpful' in collecting information, 44.64% (75) journalists indicated that library is 'sometimes' helpful in getting the information, whereas 3.57% (96) journalists have 'never' found library helpful.

### 5.13 Books in the Personal Library of Journalists

Journalists do maintain their personal library. 14.29% (24) journalists have up to 50 books, 10.71% (18) journalists have up to 100 books, 10.71% (18) journalists have up to 250 books, 17.86% (30) journalists have up to 500 books, and 14.29% (24) journalists have more than 500 books in their library. 32.14% (54) journalists stated that this is not applicable to them.

## VI. CONCLUSIONS

Following conclusions are drawn on the basis of the analysis and interpretation of data

1. A very high percentage of journalists (69.59%) possess diploma, bachelor or master degree in journalism while 48.21% journalists possess degree in other subjects like arts, commerce, law and science. Only 5.32% journalists acquired Ph.D. degree. This shows they are less inclined towards achieving higher degrees.
2. The highest numbers of journalist are those who are working in the field and have designation of correspondent. 85.71% journalists are male whereas only 14.25% journalists are female.
3. A large number of journalists have the professional experience of 16-20 years while a least number of journalists are in the category of upto five years of professional experience.
4. Majority of journalist are working in the editorial department of media either it is concerning to electronic media (T V), print media, radio or others.
5. Majority of organizations of the journalists have more than 500 books in their library and while some of them have more than one lakh books like public relation secretariat and some organization don't have it and they are using the facility of public library. It can be concluded not all the organization have library.
6. A large number of journalists prefer afternoon time to visit library while rest prefer evening time. It can be concluded that morning time is unfavourable one.
7. Maximum journalists prefer internet as a source of gathering information. 80% journalist indicates radio programs helpful in collecting information.

8. Majority of journalists have general employee as incharge of their organization's library and agree that library is helpful in collecting information while only 39% agree that the attitude of librarian and staff is helpful. It can be concluded that the attitude of library staff and set up of library need far-reaching changes.
9. Majority of the journalists accept that latest books are available in the library of their organizations. More than 80.36% journalists do visit other libraries to seek information. It is concluded that the required reading material is either not available in their library or they don't have library in their organization.

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# A Case Study On Working Women And Their Reproductive Health Problems With Special Reference To India

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## Abstract

*This paper highlights the women and their role in the society, because their role in the society is influencing their social status. Social status of the women is not uniform in all the periods; it changes over period to period. So the present study concentrates on social status of women in ancient, medieval and modern days. Women's Health, Education and their social status are inter-related to each other. If the woman lacks health, that she could not come out for any other motives, and the life will be miserable. But if she has health that she could get the education and social status without any interventions. Education and social status are rest with the healthy living of human beings. In Indian Society, women and men are positioned according to their roles and importance for the society. Based on that, they will be given status and respect in the society. Health problems of women is associated with their food habit, environment they live, work pressure, nutritious food, hygienic practices etc. Thus, to protect them from such health problems needs attention on all these important influential factors. The major threatening health issues of the women are stroke, breast cancer, Female Sexual Arousal Disorder (FSAD) Polycystic Ovarian Disease, Premenstrual syndrome (PMS), Weight gain, Fibroids, Endometriosis, Urinary Tract Infection, Vaginal infections (Vaginitis), Anemia, cervical cancer, Heart disease, Osteoporosis, Arthritis, Metabolic syndrome, Autoimmune diseases, lack of knowledge on health issues, and reproductive health problems which includes Sexually transmitted infections (STIs), Frequent pregnancies, Complications from pregnancy and birth, Unsafe abortion, Female genital mutilations, alcohol and other drugs and tuberculosis (TB), Violence, Mental health problems, Work hazards and poor nutrition. This study gives attention to working women and their reproductive health problems with special reference to India.*

## **I. INTRODUCTION**

Most of the reproductive health problems are not common for men and women and none of the problems are severely affects men. Women are affected severely by reproductive health problems during pre-natal, post –natal and pregnancy periods. Most common reproductive health issues are STI, repeated pregnancies, female genital mutilations, TB, depression, violence's against women and the like mental disorders etc., are causing serious reproductive health problems. Families, members in the families, community, religion, creed, caste, culture and the like social groups are could not be taken out from the society. So the society includes all such kinds of institutions. These institutions are playing most important role in defining roles for men and women. Economic condition may also influences in defining the social status for men and women. There are no all the countries are following similar social status for women. According to their nature of social institutions prevailing in their countries, they are giving importance for women. Geographical characters are also having its role in structuring status for both the genders. As stated they will be give care for their health. And the most crucial nature of women is motherhood, even though men are important for birth, after certain point of time, there is no need for men's presence after conception. But the presence of women is compulsory till the end of childhood stage. That's the reason women are getting more responsibilities in reproductions stages. Due to this more responsibilities their actual health destroys at any level.

## **II. PROBLEM OF THE STUDY**

There is no awareness about the reproductive health care of women in the society, unfortunately educated working women know about reproductive health care, but they could not care for themselves without caring others in their family and have more burden than the non-working women. Modern lifestyle also boost ups the health problems among the people mainly amongst women. Most of the working people miss out food at home, and having it in outside for taste, time and availability. There is a need to sensitize these issues towards reproductive health care of working women.

- **Working Women**

Working women are those who earns incomes though regular or part-time employment for manual or industrial labour outside the home. They are expected to fulfill the works at home and outside the home related to their work environment. Women's home responsibilities includes child bearing, caring and rearing, family and spouse care and their wellbeings, day today household activities including washing cleaning, cooking, rearing and maintaining etc., At work environment women are expected to do works as equal to what the men are doing for the same jobs or for the same positions. Working women are expected to participate in the family, religious and the related social function also. They must also expect to participate in the work related events inside and outside of their work station.

- **Sexuality role and tribulations**

Customarily the main role of women is to give birth and particularly a male child. If the women give birth of female child, her role continues upto giving male child to her



family. Traditionally male child are considered the asset and legal heir to their family and female are considered as expenses or liability of their family. By nature men are free to enjoy by themselves but women are not. For example, if men wants to sexually enjoy, there is no restricts on their bodies, they enjoy freely, but if women need sexual enjoyments, they must have to follow some preventative measures of pregnancy. There is no measure to define limpiness for men in the society. Women are always watched at all stages of their life by the society for their limpiness. During sexual intercourse also women suffers from some forms of internal pain but men enjoys the interaction. Women's health is the mean for achieving individual, family and social goals. They suffer from various kinds of problems relating to social, economical, cultural, political, family, health and work etc., under health, sexuality and reproductive health problems such as reproductive tract infections, child birth morbidity, infertility and violence against women, young girls and even female children, Poverty and poor hygienic conditions are the forcing factors for issues relating to reproductive health.

- **Reproductive Health Problems**

Reproductive Tract Infections (RTIs) consist of three categories. first one is Sexually transmitted diseases (STDs) which includes chlamydial infection; gonorrhea, trichomoniasis, chancroid, syphilis, genital warts, genital herpes, and human immuno deficiency virus(HIV) infection. Second is Endogenous diseases in the genital tract of healthy women through overgrowth of organisms like bacterial vaginosis and vulvovaginal candidias; and third category is Iatrogenic infections, which are linked with medicinal actions, such as abortion, delivery, effects of Intrauterine devices (IUD) and oral pills Contraceptive. There are varieties of bacteria, viruses and protozoa are causing RTIs and they instigate in the Lower reproductive tract and begin to the external genitals and extended to cervix. If the women are not getting treatment at this stage the infections can spread past to the cervix to the upper tract and disturbing the uterus, fallopian tubes and ovaries one by one. Women gets RTIs through sexual interaction with infected partner or dangerous gynecological and obstetric and practices, including hazardous methods of contraception, childbirth and abortion or an unclean material used to absorb menstrual flow during medical treatments or by the patient by themselves. The other problems are overloading of work from all directions, conflicting expectations from women, adverse self – evaluation by women, for examples women think that they could not give proper care for children, spouse and family and the related situations, problem of maintaining satisfactory family relations, sharing of household and child care responsibilities. Amongst these role overload and role stress are the more common problem for married women. Diabetic, cancer, anemia, HIV/AIDS, mal-nutrition are other kinds of health problem for working women.

### III. REVIEW OF LITERATURE

Schwartz et al. (1999) assessed the level of knowledge and use of family planning in Zimbabwe, from 6083 women in Zimbabwe. It is found that as compared to 1991 the

knowledge and use of family planning services have improved more, and in inspection of infection and the introduction of contraceptives have also proved success. According to Edwards et al (2000) with regard to women's knowledge and attitude towards the use of contraceptives, its effectiveness and its difficult effects on health of women in Oxford, women are likely to overrate the risks of contraceptives and undervalue the effectiveness of contraceptives. The study on determinants of morbidity as perceived by women in relation to their socio-economic context was carried out through ethnographic, cross section community based survey and clinical study apart from interviews, focus groups discussion, body mapping and observation by Oomman (2000). It found that 47.9 % of the respondents had menstrual problems. They have expressed the causes are weakness, worry, abortions, problems in delivery, eating hot foods, drinking too much tea, wearing a copper-T, economic constraints and physiological weakness. Majority of the respondents not attended any treatment for their illness like discharge, menstrual problems etc. if they had severe illness, the first informed person was their husband. Another findings by Tharakan, (1992), with regard to occupational stress and job satisfaction of the working women is professional working women are having more job stress than non –professional working women. A study on influence of women's work status on the well being of Indian couple was done by Andrade et.al. the subjective well-beings were administered with 46 one working and 51 both working families were randomly selected among middle class couples in the urban area. it was resulted that, in both working and one working families the wives experienced less well-beings than their husbands. But non-working wives showed less confidence in managing than the working wives. A study made by the Andrade et.al. (1999), on Influence of Women's Work Status and their Well-Being of Indian Couples with 97 respondents were selected among urban middle class by using random sampling method. In which 46 were 'one-working i.e. only male spouse employed' (only husband employed) and 51 were 'together working i.e both spouses were employed. The wives in both types of families experienced less well- being than their husbands and the nonworking wives experienced less confidence in managing than the working wives. A study by Uma Rani et al. (2003) on Women, Work and Insecurities in India was carried out with the focus on poor informal workers, their vulnerability and insecurities. They found that women workers faced Insecurities both inside and outer the home because of their twin responsibilities and with little education, ability and resources, they faced difficulty to manage it. The stress of earning income besides carrying out their household responsibilities seriously exaggerated their health. The study also suggests that there is a need to restructure the social and economic security system to recognize women's labour and its value at home.

#### **IV. METHODOLOGY**

The current study applies the existing secondary sources for description with multiple –case design was used by using descriptive case study method for explaining real life cases. There is three case studies are discussed in different work environment for better understanding of working women and their reproductive health problems (RHPs).

### **Women Status in Indian History**

The culture, Tradition and civilization of India was begins with the soc called Vedic age, where women were given high status as like men in the society, women not used purdhas and they have enjoyed the freedoms in education, marriage, economic and religious activities. Girls are educated like boys and they have also gone for social service. They have also occupied important places in social gatherings and using always graceful wearing (Shankar rao, 2006). Women in epic age also honored with good positions. The two epics of ramayana and magabahartha gave a respectful place for women. After that women status was changed, they were given second class and the men were treated first class and they were given importance. In the manu law, the practice of women under the care of father during their childhood, under the care of husband after marriage in the middle age life and subsequent to that under the care of their sons in their old age, they were not treated individually and they were directed by men at every stages of their life. Several myths were developed; women were stressed to be always loyal for their husbands not vice versa. Sati, pre -puberty marriage and purdha systems were developed. Women were totally neglected in the fields of religion and economic (Ahuja, 1993). During Buddhist period some of the case restrictions were relaxed and preached equality of all and tried to develop the social, cultural and economic well being of the women. Women were encouraged to select their own profession and they were permitted to become sanyasis. During medieval period women got more disappointment where caste laws and property laws dominated women in social life. Child marriage, pardha and devadasi systems were introduced and strengthened. During British period also the quality of women life remains the same. But some considerable developments were made in education, employment and social rights. The educated Indian who work under British were understand the importance of women by seeing British rules and improved the position of women by barring bad social evils. At the end of 19<sup>th</sup> century women entered into the world of salaried profession. After independence drastically changes have been noticed in the status of women. Education, economic and political participation was confirmed by passing the legislatures and the exploitation of women has reduced to the greater extent. Constitutional recognition was given; men and women are treated equally. Hindu marriage acts (1955), dowry prohibition act (1961), indecent representation of women (prevention) act 1986 were passed to promote the status of the women. From 1970 onwards women white collar jobs were increased. Since 1991 onwards women are getting recruited in military force. Slowly women entered into all the fields and they are equally contributing as like men apart from their family, motherhood and the relevant roles.

### **Reproductive Health Status of Women**

At global context the Reproductive Health Situation of women were changing drastically. There is a gap between women's expectations and the reality of the reproductive care. Maternal deaths are major cause of death for the women in most of the countries. Everyday nearly about 1600 women dies due to child birth and pregnancy related problems. 90% of these kinds of death are occurs in Asia and African countries and the remaining 10%

are in other developing and developed regions. Nearly 25 to 35% of the deaths of women in developing countries is as a result of complications in their child birth or pregnancy. Most of the maternal deaths are caused by poor access of basic medical care facilities during child birth pregnancy and post partum periods. Only 53% of the births or deliveries are assisted by the skilled attendant or trained staff and the remaining causes were assisted by the family members or untrained traditional attenders. The maternal mortality rate is high in India among south Asian countries i.e. 540 deaths per 1, 00,000 live births. Nearly about 1, 36,000 women are passing away in India due to pregnancy related setbacks. It is very appalling that the number of maternity related deaths occur in India is just equal to deaths in a year in whole Europe. Most of the maternal deaths are related with poor nutrition, transport and medical facilities.

## **V. REPRODUCTIVE HEALTH ISSUES - REAL LIFE CASES**

### **Case -1-Anandhibai Joshi**

Anandibai Joshi was a first lady doctor in India who has qualified a doctor degree during 1886. She was struggled like anything to get this doctor degree. She was from orthodox, landlord, Brahmin family from Kalyan a part of the Thane District in Maharashtra state in Western India. Through she earned doctor degree she was not established in her profession. She married Mr. Gopal Vinayak Joshi, a postal clerk who was a widower and he was 20 years older than anandhibai. Anandhis birth name was Yamuna and it was renamed by her husband as Anandhi – the happiest one. Gopal joshi decided to provide education to his wife anandhi after the death of their first child at the age of 14 for Anadhi. This tragedy forces them to take a decision for concentrating on studies especially in doctor profession. She married Gopalrao Joshi at the age of nine. Because poor medical attention and facilities their child expired. So, she took a decision to become a doctor, gopal transfers his job to Bombay and Calcutta. He encouraged Anandhibai against the resistance and unfairness that she faced and there is a situation that she could study only in abroad. Gopal wrote to a missionary named Gopal asked help from foreign missionaries to help her to study in abroad. But Theodicia Carpenter, from New Jersey came forward to help her ti study in America. Anandibai was already ill with the symptoms of tuberculosis. In spite of her ill well, gopal decided to send her to study in 1883 to America. Before leaving India for studies she stressed out the need of female doctors in India, and also talked about her dream goal of breaching a medical institution for women in India. Her speech gets more publicity, and also received contributions from all over India. As a student of Pennsylvania, women's medical college she was happy but due to poor findings insisted her to work more and she neglected herself and her health. Due to these reasons her health became worsen. She was also not used to wear western cloths for harsh cold in North America. At any cause that she was completed her thesis. She returned during 1886 and she was diagnosed at the later stage of tuberculosis, she tied when returned to India. She was born on 1865 and died on 1887 at the age of 21 after her doctor degree. An early American feminist, Caroline Healey Dall, an American feminist wrote biography of Anandi during 1888, and Kashibai Kanitkar wrote a



biography of Anadhi in Marathi during 1912. She was the first woman Indian physician trained in Western medicine and believed that the first Hindu woman to put foot in American soil.

It is evident from the above case that, women suffered from varied kinds of responsibilities and she was not provided health care from their family. They were all intended to provide education to Anandi and not to health. At the age of 14 that she was delivered a boy and he was dead after 10 days of his birth. The ancient society insisted women to carry out their reproductive works even at the age of 9. It may be of too earlier for some of the other women in that society, but it's an age of childhood. Those women missed these precious childhood experiences. They were pushed to do their marital, family and reproductive roles. Due to these reasons they were faced many health issues like Risk for HIV and Other Sexually Transmitted Diseases, Hostility of Children Bearing Children, Children Delivering Children, and Cervical Cancer etc., early marriage affects young girls more and the impacts of illness and death continues to the next generation children's. Adolescent mothers having 35%–55% higher risk of preterm, low weight and mortality rate for infants than the older women. These deaths are moderately caused by young mother unhealthiness, immaturity and non-accessibility of reproductive health services and anemia. Untreated health problems of these young mothers will also affect their new born. United Nation also states that, the pregnancy and childbirths related complications are the foremost causes of death of female under the age of 18.

#### **Case 2- Hazardous Industries/Factories**

There are number of chemical industries and its allied works are have been carried in India since independence. 13-14% is the growth rate of chemical industries in the last five years in India due to high domestic consumption, export potentials and diversified nature of our chemical industries this sector is developing like anything. The exposure of chemicals and hazardous working environment will affects the women's reproductive health, pregnancy, and child's birth and post partum in more complex way. The modern life situations are forcing women to work for economic reasons. Unfortunately, already they are not providing care for their health; it will be more worsening the situation due to over work and the related stress to women. Especially women working in chemical, cotton, fabric industries will be facing serious health issues. The serious disorders caused by hazardous chemicals includes infertility, less fertility, frequent abortions, birth defects, damaging chromosomes, hormone destructions, menstrual problems, skin problems, hair problems and irritations, allergies, head ache and all kinds of cancers, tumors and pains are caused by these chemicals. Today there are more than 70,000 chemicals are in business market for all kinds of usages. Only a small portion of these were examined for toxicity effects. More number of research results shows that, even a small quantity of its contact is also biologically significant. It is present in paints, varnishes, stain removing products, toilet bathroom cleaners, plastic materials, in all kinds of insecticides, pesticides, fertilizers, building materials, modern home and office products, animal and pet care products, unhygienic water, electronics, health care products, solvents, welding and jewelry making

metals, common toilets, waste sites, gas stations, green house effects are some of the examples of chemical exposed products commonly in touch with human beings. Apart from which due to education in particular fields, people are directed to work in some kinds of chemical or hazardous industries or factories. They have been involved with such a kind of industries with or without aware about the health problems in working with these industries both men and women. The exposure of chemicals seriously affects the reproductive and sexual organs. Chemicals are affecting women's reproductive health more than the men, because the women body is doing more reproductive works than the men. The workers reproductive choices are affected by the strategies and performances prevailing in the hazardous industries/ factories. Women are facing more challenges in such a kind of industries, like late marriage, lack of child, inability to maintain sexual interest, lack of interest in motherhood, postponement of pregnancy, unwanted abortions, and problems in monthly periods. The reasons are some companies are refusing to hire married women, pregnant women and women with children. The worst situations are some companies are having policies to thwart from getting women pregnant. Most of the chemicals like acetone, benzene, cadmium, carbon tetrachloride, hexane, lead, trichloroethylene, toluene and xylene are causing serious reproductive health issues in both men and women's reproductive system. The serious issues are miscarriages and abridged fertility in men, menstrual troubles and pregnant women anemia, harming the baby inside the womb, damage men and women's reproductive systems, causing birth defects, prostate cancer and learning problems in babies.

### **Case -3 -BPO /Call Centres /ITs /ITES**

India is now competing with, Australia, China, Philippines and Ireland in BPO call centre field. According to the Research by the National Association of Software Services and Companies (NASSCOM) has found that India is very popular for BPO industry because of its quality orientation among leading BPO companies, 24/7 services, unique geographic condition and the tax structure have all made is popular in this field. This sector involves with Customer support services, Technical support services, Telemarketing services, IT help desk services, Insurance processing, Data entry, data processing and Data conversion services, accounting and Bookkeeping services, Form processing services and Online researches. The Indian BPO sector is make use of approximately 1.1 million Indians to its field, nearly 70% of India's BPO industry's income is from contact centers, 20% are from data entry work and the left over 10% is from information technology related works. The Indian BPOs holds 56% of the business process outsourcings of the world. According to the study on mental, physical & social health problems of call center workers conducted among 100 call centre workers from both sex in Pune and Mumbai cities by Antoine H D, and et.al., (2010) there were more number of workers are facing sleeping disturbances and it's related mental strain and nervousness. The Psychosocial problems associated are interruption in family life, developing of other unconstructive habits like use of tobacco and alcohol, and defective eating habits. The study suggests that there is a need to have a more number of researches to study the health problems in this occupation, understand better human resource management, and health education in this area. As per Latha G and et.al.

(2010), Regarding Call center employees: Is work life stress a challenge, said that BPOs are the fastest mounting sectors in the world. Some companies are concentrating on its core business values and for this reason it may outsource some of its non-core activities from outside similar to salary payment services, customer services and for its administration areas and a call centres are like voice based service is offering the customers with the needed information. So the company is giving more care in recruiting and training the employees working in BPOs/Call centres. The employees working in this sector are facing the problems like more workload, unreachable targets, forcing and offensive customers. The working hours and shifting times are forcing them to create automatically the biological imbalances and at lost creates stressful life every time. Above all call centres work for 24 hours in all 365 days and the time duration of each and every shift is 8 hours and minimum qualification required is UG degree and fluency in English. Thus majority of the young people are getting offer and they were all fresher without any experience. They have been moved from some small towns and villages to some metropolitan cities. Young's are getting lots of money and using more freedom. Probably the entire sector is managed by young people only. They don't have moral restrictions and values in some times. So the situations are forcing such youngsters to do wrong things like illegal relationships, love affairs just by attraction, secretive tours and stays with boyfriends, developing unwanted pregnancy and abortions. The workers are work in the nights and sleep in day times and this shift also affects reproductive health of the workers. Biological imbalances occur among the workers. Due to that psychological reactions and physical problems may also occur. Women constitute 1/3 of total BPO /Call centre workers. They have been developing a habit of drinking, dating with managers, colleagues and clients and also using money for redundant reasons. In fact, they are free to do anything because, their family is not with them, and there are no restrictions for their desires. Their tendency is to fulfill all of their desires. Due to these practices by themselves or by others or by company's policies they are distracting and spoiling their own and others health. Their food habit is also changing, taking more of hard and soft drinks, avoiding proper breakfast and lunch and dinners may also leads to problems in their reproductive health. Some of the research evidences shows that, they have been in contact only with technical tools not with real humans. So their attitude and behaviours are also changing towards gadget that they are using. There is possibility of developing less interest with family members, family system, marriage and relationships, problem of fetal alcohol syndrome; low birth weight, learning disabilities, behaviour problems, and special educational need are some kinds of setbacks out of this profession. Continuously working in same place and with same kind of tasks may develop piles including external and internal hemorrhoids, tumors and fistula among the workers. It occurs due to Heredity, Sitting posture, Lifting heavy weights regularly, Chronic constipation or diarrhea, liver cirrhosis, Obesity, Improper diet, Age, Persistent cough and sneeze, and abnormal growth in anal canal. The women are having more possibility to develop Endometriosis is a problem affecting a woman's uterus, Uterine Fibroids, Gynecologic Cancer, Interstitial Cystitis, Polycystic Ovary Syndrome (PCOS), Sexually

Transmitted Diseases (STDs), and HIV. HIV is the human immunodeficiency virus which leads to acquired immune deficiency syndrome, (AIDS) is the later stage of HIV affected.

## VI. DISCUSSION AND CONCLUSION

Women in various stages of India were faced different kinds of health problems. Though the government is continuously taking effort to improve the health and welfare of women, women at various periods had different social status. Still the problem women's reproductive health has not been solved. Because of their major role in reproduction, they are facing many deadly complications. The present study focuses only on working women and their reproductive health problems. According to surveys those who are educated and working are comes under working women category. But the rest of the works done by uneducated, illiterate women are not at all considered at their family and outside of their families. Less educated or illiterate women are working in many dangerous works in several detrimental fields like cleaning of toilets and sewage, drainage, hospitals, chemical, leather industries etc.,. Usage of harmful chemicals in these works affects the reproductive organs of the people especially women. The other fields are farming activities. According to the census, 2011 India is having a total female population of 586 millions. Amongst 69% (77 Million) of the women are in farming activities, in tobacco and textile manufacturing employs 10.8% of women, 5.1% are working in construction field and the related fields, 3.8% are in education, 2.1% in grocery stores , 1.6 are in household works for various kinds of domestic works, 1.5% are working in personal services like beauty treatments, washing clothes, reflexology, marriage arrangements, caring babies, cleaning and washing works, 1.25 million women are engaged in health care sector, and the remaining 1% are in other bureaucratic works . This is how the distribution of women employees is made in our statistics. Bu the actual may always varies and higher than this figures. Wherever the woman works whether it is organized or unorganized sectors, they are not concentrating for their health. Multi roles are forcing them to become unhealthy. The family especially spouse may take care of the women's health particularly reproductive health, they may be reduced to work hard and more, responsibilities may be divided to men in the family and apart from that gender disparities must be demolished from the society and the attitude of people as a whole must be changed towards gender roles. Proper care must be given from all the sides, i.e. from factory or industry, government and individual side efforts are required to save the women from health problems mainly from reproductive health problems.

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# Risk-Return Analysis Of Selected Financial Institutions In India Through GARCH Model

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Keywords	Closing Price, Volatility, Augmented Dickey Fuller Unit Root Test, Share Return, ARCH 1, GARCH 1				
JEL Classification	G11, G12, G13, G17, G21				

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## Abstract

*This study endeavor to analyse the risk-return of selected financial institutions in India. The objectives of this research is to check whether the return from the security price is stationary or not and to find out the volatility of the selected financial institutional securities in India. For the study, thirty three financial institutions were selected from banking and non-banking institutions. The study applied Augmented Dickey Fuller Unit Root Test for checking the stationary of the price series; ARCH 1 and GARCH 1 is used to find the share prices volatility. The unit root test found out that the return on share price is stationary. From the volatility test, it is revealed that out of thirty three companies' share return, twenty are highly volatile and the remaining thirteen are moderately and low volatile.*

## I. INTRODUCTION

Security market plays an important role in formation of capital and for the economic development. Strength of any nation depends on the strength of its security market and amount of investment. It is obvious that every development activity needs huge amount of capital investment which depends upon the risk-return of particular investment opportunity. The risk and return is directly related, so that a risky venture can give more return when compared to riskless opportunity. The change in risk-return of a security price can be otherwise known as the volatility of the security. This volatility is mainly due to change in

various sectors and through new policies and regulations of the government. Financial sector is one among such sectors in India, which changes accordingly with various policies of government. These changes slowly spread to other sectors within a short span of time. This will influence the investment plans either in positive or in negative manner. Whatsoever, it creates opportunity for the investors in security trading.

Banking and non-banking institutions bring changes in the investment pattern and security trading. The operations of these institutions act as a strong foundation for every other sector in India. Compared to other institutions, banking and non-banking institutions are safe in the hands of various regulatory bodies. The year 2014-15 could well go as one of long pending financial sector reforms, expected to have a lasting impact. From governance issues of the banking sector to higher foreign direct investment and overhaul of the monetary policy framework, with inflation targeting as the aim, these would shape the banking and financial sector for a long while<sup>1</sup>. These factors shows that the banking and non-banking sectors has a significant role in molding our nation. These reforms will create an impact on the share price of these institutions. Thus the researcher tries to find out the volatility of the financial institutions' securities in the light of above facts.

## II. REVIEW OF LITERATURE

- ▶▶ The study of **Ganghua Mei (2016)<sup>2</sup>** explored the linkage between both the returns and volatility transmissions between the U.S. stock market, the world gold market, and the Chinese stock market. He suggested that all active investors should rebalance their portfolio and should hold more gold future contracts.
- ▶▶ **Mondal (2015)<sup>3</sup>** has compared the performance of banking and non banking companies in India and identified that the contribution of non-banking financial companies in India is much higher and its total assets position also showed an increasing trend at a higher rate compared to banking sector.
- ▶▶ **Rajvardhan (2014)<sup>4</sup>** in his findings he discussed that the time series analysis shows an overall rising trend at the aggregate investment level across all bank groups. The analysis underlines the fact that, there is little or no relevance to the macroeconomic environment in the strategic posture of banks.
- ▶▶ **Nisha (2014)<sup>5</sup>** studied the stock market volatility patterns in Indian stock market and behavior of volatility after the introduction of derivatives. Her findings say that the volatility and the stock returns are related. She also pointed out that the volatility has its long term impact in the stock market. So an investor is required to take all possible measures to design his portfolio.
- ▶▶ **Bhowmik (2013)<sup>6</sup>** has studied various dimensions of stock market volatility including measurement and nature of impact of volatility and concluded that the political instability and depression catapulted the stock market volatility which reduces the trade volume and increases the current and capital account deficits and affect the growth rate of a country.

### III. STATEMENT OF THE PROBLEM

The financial sector in India is one of the oldest as well as the strongest among the world. It brings changes to the nation by way of creation and procurement of funds from various sources and its effective utilization through the different investment opportunities and in to capital formation. Capital is essential for the developmental activities which are being formed through strong investment avenues. Every investment is influenced with two important factors, i.e., the risk and return. Investors are ready to take more risk for getting more return and many of them have shifted their investment from traditional opportunities to risky financial securities. The budget for the year 2016-17 declared various reforms in the Indian financial sector. This includes introduction of comprehensive Code on Resolution of Financial Firms, development of new derivative products by SEBI in the Commodity derivatives market, amendments in the SARFAESI Act 2002 to enable the sponsor of an asset reconstruction companies (ARC) to hold up to 100% stake in the ARC and permit non institutional investors to invest in securitization receipts, allocation of ` 25,000 crore towards recapitalization of public sector banks, General Insurance Companies owned by the Government to be listed in the stock exchanges etc...<sup>7</sup> All these reforms will definitely increase the value of this sector and creates an investment opportunity for the investors. These changes will reflect in their share value and make fluctuations in their return. Thus the study tries to check whether the return on these share prices is stationary and also to find out the rate of volatility of the share price of these sectors. So the researcher verbalized the research questions in to following objectives:

1. To know the security price of selected financial institutions are stationary or not.
2. To analyse the risk-return pattern of the selected financial institutions securities.

### IV. METHODOLOGY

The study is purely based on secondary data<sup>8</sup>. The financial institutions include banking and non-banking institutions on their market capitalization basis. Ten banks were selected in which five from public sector and five from private sector. Bank of Baroda, Bank of India, Canara Bank, State Bank of India and Punjab National Bank from the former and HDFC, ICICI, Federal Bank, Kotak Mahindra Bank and Axis Bank from the latter were selected. Remaining twenty three non-banking companies (NBFC) were selected which is classified in to five different service provider viz., General, Housing, Investments, Leasing & Hire Purchase and Term Lending. NBFC General consists of Consolidated Finvest and Holdings, Emkay Global Financial Services, Geojit BNP Paribas Financial Services, IIFL Holdings and Nalwa Sons Investment. NBFC Housing includes Can-Fin Homes, Dewan Housing Finance Corporation, GRUH Finance, Housing Development Finance Corporation and LIC Housing Finance. NBFC Investment consists of Bajaj Holdings & Investment, PNB Gilts, Reliance Capital, Tata Investment Corporation and TCI Finance. Leasing and hire purchase comprises with Bajaj Finance, Cholamandalam Investment and Finance Company, Shriram City Union Finance, Shriram Transport Finance Corporation and Sundaram Finance. Term lending includes IDFC, IFCI and Tourism Finance Corp of India.



The study period is spread over to ten financial years starting from 01-04-2006 to 31-03-2016. The study used Augmented Dickey Fuller Unit Root Test for checking the stationary of the price series; ARCH 1 and GARCH 1 is used to find the share prices volatility.

## V. ANALYSIS AND DISCUSSIONS

Table 1: Augmented Dickey-Fuller test

Banks	Closing Price of Banking Securities			
	Level		1 <sup>st</sup> Difference	
	t-Statistic	Probability	t-Statistic	Probability
BOB	-1.745	0.405	-10.184	0.000
PNB	-1.762	0.397	-9.779	0.000
SBI	-2.374	0.151	-9.590	0.000
BOI	-2.016	0.279	-11.728	0.000
CAN	-2.202	0.206	-8.857	0.000
AXIS	-0.993	0.754	-9.646	0.000
HDFCBN	0.152	0.968	-11.336	0.000
ICICI	-1.960	0.303	-10.146	0.000
KOTAK	0.214	0.972	-9.630	0.000
Federal	-1.581	0.489	-10.167	0.000
CON	-2.731	0.071	-11.194	0.000
EMK	-2.781	0.064	-8.223	0.000
GEO	-2.212	0.203	-10.262	0.000
IIFL	-2.305	0.171	-12.710	0.000
NALW	-3.277	0.018	-12.444	0.000
CANFIN	3.828	1.000	-5.961	0.000
DEW	-1.121	0.705	-9.697	0.000
GRUH	0.496	0.986	-10.097	0.000
HDFCNBF	-0.970	0.762	-9.801	0.000
LIC HF	-0.169	0.938	-10.403	0.000
BJ HLD	-0.473	0.891	-9.443	0.000
PNB GLT	-2.984	0.039	-12.032	0.000
REL CAP	-1.968	0.300	-9.596	0.000
TATA INV	-2.497	0.118	-10.431	0.000
TCI FI	-4.020	0.001	-10.823	0.000
BJ FIN	6.039	1.000	-10.351	0.000
CHOL	1.148	0.997	-11.703	0.000
SHR CU	-0.440	0.897	-9.383	0.000
SHR TR	-1.239	0.655	-10.083	0.000
SUN	-2.345	0.159	-5.692	0.000
IDFC	-2.333	0.163	-9.790	0.000
IFCI	-2.594	0.0969	-12.060	0.000
TOUR	-2.115	0.238	-8.832	0.000

Source: Computed Secondary Data

The table 1 shows the Stationarity test of select financial institutions in India. The results fail to reject the null hypothesis of unit roots in their level form. It implies that there is no possibility of the series to be stationary around a constant mean or around deterministic linear trend. Therefore the first difference of all series is tested for stationary of the series. The results revealed that the closing price of statistics for financial institutions are significant at the 1% level indicating the rejection of null hypothesis of the existence of a unit root for each of the price series in their first difference. Thus the share price return is stationary for all the selected financial institutions over the study period.

**Table 2: Estimation of Volatility of Select Financial Institutions in India**

Sl.No.	Institution	$\alpha_0$	P Value	$\alpha_1$	P Value	$\beta_1$	P Value	$\alpha_1 + \beta_1$
<b>Private Sector Banks</b>								
1.	Axis	0.002862	0.2515	0.217575	0.125	0.592841	<b>0.0174*</b>	<b>0.810416</b>
2.	Federal	0.002334	0.1862	0.109913	0.2036	0.735456	<b>0.0000*</b>	<b>0.810416</b>
3.	HDFCBN	0.000149	0.6186	0.079751	0.0819	0.894681	<b>0.0000*</b>	<b>0.974432</b>
4.	ICICI	0.002158	0.2627	0.198991	0.1506	0.667028	<b>0.0024*</b>	<b>0.866019</b>
5.	KOTAK	0.00057	0.26	0.297623	0.0321	0.678495	<b>0.0000*</b>	<b>0.976118</b>
<b>Public Sector Banks</b>								
6.	BOB	0.001531	0.4377	0.098391	0.3091	0.79431	<b>0.0001*</b>	<b>0.892701</b>
7.	BOI	0.004783	0.6912	0.054442	0.5313	0.698763	0.2964	<b>0.753205</b>
8.	CAN	0.011181	0.3362	0.167823	0.3338	0.159942	0.8061	<b>0.327765</b>
9.	PNB	0.003876	0.3547	0.202649	0.2084	0.541494	0.1238	<b>0.744143</b>
10.	SBI	0.00162	0.5825	0.055947	0.477	0.824884	<b>0.0024*</b>	<b>0.880831</b>
<b>NBFC: General</b>								
11.	CON	0.000403	0.1221	-0.10277	0.0126	1.064291	<b>0.0000*</b>	<b>0.961524</b>
12.	EMK	0.02463	0.0142	0.429631	0.0084	-0.02584	0.9064	<b>0.403788</b>
13.	GEO	0.002316	0.4686	0.039189	0.2972	0.859964	<b>0.0000*</b>	<b>0.899153</b>
14.	IIFL	0.003085	0.0964	0.260046	0.0742	0.660015	<b>0.0000*</b>	<b>0.920061</b>
15.	NALW	0.000313	0.4377	0.334466	0.002	0.759877	<b>0.0000*</b>	<b>1.094343</b>
<b>NBFC: Housing</b>								
16.	CANFIN	0.003357	0.3933	-0.0267	0.2553	0.779178	<b>0.0063*</b>	<b>0.752479</b>
17.	DEW	0.002894	0.2986	0.171145	0.2161	0.723143	<b>0.0005*</b>	<b>0.894288</b>
18.	GRUH	0.001022	0.3088	0.196449	0.1494	0.688973	<b>0.0009*</b>	<b>0.885422</b>
19.	HDFCNBF	0.000203	0.4139	0.075852	0.1123	0.887099	<b>0.0000*</b>	<b>0.962951</b>
20.	LIC HF	0.001914	0.2882	0.11163	0.1865	0.791492	<b>0.0000*</b>	<b>0.903122</b>
<b>NBFC: Investments</b>								
21.	BJ HLD	0.000778	0.1387	0.175542	0.007	0.727728	<b>0.0000*</b>	<b>0.90327</b>
22.	PNB GLT	0.002522	0.1895	0.13519	0.1738	0.685543	<b>0.0006*</b>	<b>0.820733</b>
23.	REL CAP	0.004176	0.2615	0.156841	0.2195	0.713678	<b>0.0008*</b>	<b>0.870519</b>
24.	TATA INV	0.000163	0.212	0.122949	0.054	0.84644	<b>0.0000*</b>	<b>0.969389</b>
25.	TCI FI	0.005626	0.5344	0.025634	0.4831	0.864245	<b>0.0000*</b>	<b>0.889879</b>
<b>NBFC: L &amp; HP</b>								
26.	BJ FIN	0.001244	0.269	0.273849	0.0011	0.680438	<b>0.0000*</b>	<b>0.954287</b>
27.	CHOL	0.001222	0.2643	0.212327	0.0373	0.737774	<b>0.0000*</b>	<b>0.950101</b>
28.	SHR CU	0.002744	0.0000	-0.07469	0.0000	0.583798	<b>0.0000*</b>	<b>0.509107</b>

29.	SHR TR	0.00887	0.2247	0.182313	0.226	0.157387	0.7819	<b>0.3397</b>
30.	SUN	0.009868	0.0000	0.192459	0.0296	-0.28327	<b>0.0335*</b>	<b>-0.09081</b>
<b>NBFC: Term Lending</b>								
31.	IDFC	0.0034	0.2007	0.220446	0.0248	0.605582	<b>0.0004*</b>	<b>0.826028</b>
32.	IFCI	0.003643	0.2858	0.077084	0.3356	0.828403	<b>0.0000*</b>	<b>0.905487</b>
33.	TOUR	0.00071	0.2488	0.04803	0.2255	0.911684	<b>0.0000*</b>	<b>0.959714</b>

Source: Computed Secondary Data

Table 2 shows the estimation of volatility of select financial institutions in India. In this analysis, if the value " $\alpha_1 + \beta_1$ " is nearer to '1', it shows more volatility and if the value is away from '1', it shows lower volatility.

In the case of private sector banks, majority of the banks falls under moderate volatile except HDFC bank and Kotak Mahindra Bank. In public sector banks, BOB and SBI is more volatile than the remaining ones. In NBFC: general, housing and investment, all the institutions are highly volatile except Emkay Global Financial Services in general, CANFIN from housing and PNB Gilt from investments. Bajaj Finance and Chola mandalam from L & HP, IFCI and Tourism corp. of India from term lending are highly volatile.

## VI. CONCLUSION

The study analysed the Stationarity of the financial institutions and their volatility. The study used Augmented Dickey Fuller Unit Root Test for checking the stationary of the price series; ARCH 1 and GARCH 1 is used to find the share prices volatility. The unit root test found out that the return on share price is stationary. From the volatility test, it is revealed that out of thirty three companies' share return, twenty are highly volatile and the remaining thirteen are moderately and low volatile.

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# Employee Morale - A Study With Reference To Strides Shasun Pharamaceuticals Ltd., Kudikadu, Cuddalore

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## Abstract

Today, employees are considered as the main actors and valuable capitals of organizations. Morale is one of the outstanding dimensions of healthy organization. Morale is psychological concept. Morale is not a cause but rather the effect or result of many going awry. Morale differs from person to person, industry to industry, level of education, age, nature of work etc. Morale may be range from very high to very low. Morale in a business organization is an attitude of emotional readiness, which enables an employee to improve his productivity. When an organization motivates its employees to a higher degree, resultant morale in the organization will be equally high. Motivation is the process and morale is the product. Therefore, continuous monitoring and improvement of morale is necessary for an organization. High morale compensates the weakness in other required resources for increasing the productivity. Totally, it is said that the high morale is associated with the job satisfaction, creativeness and innovation, job honorability, commitment to organization, eagerness to satisfy group objective instead of individual objectives and finally improving the organizational performance. The study was conducted in employees of Strides Shasun Pharamaceuticals Ltd, kudikadu, cuddalore. The descriptive research design is adopted in the present study. The study sample constitutes 100 respondents. An attempt has been made to study the level of morale of the employees and suggest measures to increase morale of the employees for the long running of the business.

## I. INTRODUCTION

Employee Morale refers to an attitude of satisfaction with a desire to continue and strive for attaining the objectives of a factory. Morale is purely emotional. It is an attitude of an



employee towards his job, his superior and his organization. It is not static thing, but it changes depending on working conditions, superiors, fellow workers pay and so on.

Morale may range from very high to very low. High Morale is evident from the positive feelings of employees such as enthusiasm; desire to obey orders, willingness to co-operate with co-workers. Poor or low Morale becomes obvious from the negative feelings of employees such as dissatisfaction, discouragement or dislike of the job.

**1.1 Importance of Employee Morale:** Employee Morale plays vital role in the origination success. High Morale leads to success and low Morale brings to defeat in its wake. The plays of Morale are no less important for an industrial undertaking. The success or failure of the industry much depends up on the Morale of its employees.

### **1.2 Types of morale:**

- i.) **High Morale:** It will lead to enthusiasm among the workers for better performance. High Morale is needed a manifestation of the employees strength, dependability pride, confidence and devotion.
- ii.) **Low Morale:** Low Morale indicates the presence of mental unrest. The mental unrest not only hampers production but also leads to ill health of the employees. Low Morale exists when doubt in suspicion are common and when individuals are depressed and discouraged i.e., there is a lot of mental tension.

### **1.3 Factors affecting morale:**

Employee Morale is a very complex phenomenon and is influenced by many factors on the shop floor. Several criteria seem important in the determinants of levels of workers Morale such as Objectives of the organization, Organizational design, Personal Factors, Rewards, Good Leadership and Supervision, Work Environment, Compatibility with fellow employees and Job Satisfaction and Opportunity to share profit.

### **1.4 Measurement of morale:**

Since morale is a subjective concept, there are some difficulties associated with its measurement. Employees are naturally reluctant to express their true attitude towards the work and management. Employee morale can be measured through:

- i.) **Observations:** A keen observation of employee's behavior, talk, gestures should help the manager to identify any change in the level of morale.
- ii.) **Attitude surveys:** Attitude surveys are conducted mainly in two ways.
  - a. **Interview method:** Under this method, a face to face talk is carried out with the employee. The interviewer asks several persons about their feelings and opinions on various aspects of their job and the organization.
  - b. **Questionnaire Method:** In this method of morale measurement, a questionnaire is served to the employees asking them about their opinions on all factors that affect morale.
- iii.) **Company records:** Certain reports from the personnel department provide the information as to labour turnover, rate of absenteeism, number of workers grievances, the number of goods rejected, strikes and such other things, which are indicators of the level of morale.

## II. REVIEW OF LITERATURE

- ▶▶ H. C. Ngambi (2010), the study revealed that there is a relationship between leadership and morale, and those leadership competencies such as communication, fostering trust and team building set a clear direction for the college impact on morale. It is recommended that morale surveys should be conducted to obtain the requisite information before developing strategies that relate to employee morale, retention and performance.
- ▶▶ Neely's (1999) research explored the relationship between employee morale and productivity, as well as possible measures that a supervisor can take to improve employee morale. His results revealed a pattern that links the productivity of employees with their level of morale.
- ▶▶ Ewton (2007) emphasises the fact that employee morale is associated with absenteeism, which has been reported to cost large businesses in the United States \$760 000 per year in direct payroll costs, and even more when lower productivity, lost revenue, and other effects of low morale are considered. Low morale can be costly to an institution. Morale is also regarded to be the fuel that drives an organisation forward or the fuel that feeds the fires of employee discontent and poor performance. Low morale carries a high cost: the Gallup Organisation.
- ▶▶ Millett (2010) gives six reasons why staff morale is important: improved productivity; improved performance and creativity; reduced number of leave days; higher attention to detail; a safer workplace; and increased quality of work.
- ▶▶ Stevens (2009) provides five management solutions for dealing with low employee morale. He suggests that managers should begin by attracting the right talent, and hiring for skill and behaviour, looking at best practice from the best, hiring for passion and focusing on the customer.
- ▶▶ The study by Psychometrics Canada (2010) on employee morale recommends that leaders should be more effective in addressing issues of morale, should talk less and listen more, provide clear expectations, have more informal interaction with staff, clearly communicate how the organisation plans to manage change, assign tasks to staff based on skills rather than office politics, hold people accountable, give employees more responsibility, overcome resistance to change, and defer to people with greater expertise.

## III. STATEMENT OF THE PROBLEM

India, which is regarded as the original home of Pharmaceuticals being the largest producer of dying equipment has considerable potential for the drugs industry to meet domestic demands and parts of the overseas demand. The Chemicals industry provides direct employment to a large number of people and indirect employment to million. The process of nation's growth, say in specific industrial growth not only requires the availability of raw materials and infrastructure but also the adoption of sound human resource management practices by the industry. The improper human resource management could lead to loss in profit, loss in human resources and nation's benefits and ultimately

resulting in the failure of business. Only limited studies have been conducted on employee morale of Pharmaceuticals industries as such the case study has been taken up. Hence, the present study is an attempt to study employee morale of the pharmaceutical industry selected for study and suggest measures to increase morale of the employees for the long running of the business the study is considered much important.

#### **IV. SCOPE OF THE STUDY**

The scope of the study has been extended to all departments in the organization to measure the morale of employees. The scope of the study has been limited to few samples in each division/departments. A considerable number of employees will be surveyed to achieve the objectives of the study. A systematic sampling technique has been followed to make the study convenient, at the same time to correlate with the objectives of the study.

#### **V. OBJECTIVES OF THE STUDY**

- 1) To study the profile of the Strides Shasun Pharmaceuticals Ltd, Kudikadu, Cuddalore District.
- 2) To find out the factors determining the employee morale in Strides Shasun Pharmaceuticals Ltd, Kudikadu, Cuddalore District.
- 3) To study the level of morale of the employees working in Strides Shasun Pharmaceuticals Ltd, Kudikadu, Cuddalore District.
- 4) To suggest measures to increase employee morale in Strides Shasun Pharmaceuticals Ltd, Kudikadu, Cuddalore District.

#### **VI. HYPOTHESIS**

There is significant relationship between Experience and opinion of the respondents on work environment.

#### **VII. RESEARCH METHODOLOGY**

The value of any systematic research lies in its methodology which is a way to systematically solve research problems. The descriptive research design was adopted in the present study. The data for the study were collected from both Primary and Secondary sources. The primary data are collected from the employees in Strides Shasun Pharmaceuticals Ltd, Kudikadu, Cuddalore District. The researcher met the respondents personally with well prepared sequentially arranged questions. The questionnaire was prepared on the basis of objectives of the study. Direct contact was used for survey, i.e., contacting employees directly in order to collect data. The study sample constitutes 100 respondents. Secondary data are collected from company profile, website, company register, company magazine and books for use of research study. The collected data were analyzed by using the statistical and mathematical techniques like percentages, correlation, chi square, weighted average method, bar and pie diagrams.

## VIII. FINDINGS

Following are the findings based on the responses from the employees:

1. 82% of the employees are male and 18% of the employees are female under the study.
2. 50% of the respondents are married and 50% of the respondents are unmarried under the study.
3. Majority of 42% of the employees have passed Diploma, 32% of the employees have passed SSLC, 12% of the employees possess PG degree, 10% of the employees have passed HSC and 10% of the employees are degree holders.
4. Majority 62% of the respondents have one dependent in their family
5. Majority of 42% of the respondents are getting monthly salary below 5000 and 26% of the respondents are getting monthly salary above 15000.
6. 20% of respondents are work gives a feeling accomplish and pride, 35% of employees are work gives a feeling about accomplish and pride.
7. Majority of 40% of the employees felt that their job challenging and only 10% of the employees as poor.
8. 30% of respondents were highly dissatisfied with their present salary, 25% of respondents were highly satisfied with their present salary, 20% of respondents were satisfied with their present salary, 15 % of respondents have neither satisfied nor dissatisfied with their present salary and 10% of respondent in dissatisfied with their present salary.
9. Majority 70% of respondents have salary Problem and problem in working hours in the company.
10. Majority 65% of respondents were satisfied with the health care and security provided by the company.
11. 40% of respondents are feeling good, 25% of the respondents are satisfied, 35% are not satisfied with the leave and holiday facilities provided by the company.
12. Majority 62% of the respondents felt that the shift system is good.
13. Only 17% of the respondents always felt happy to work every morning and a majority of 45% of the respondents never felt happy to work every morning.
14. 46% of the respondents felt that they work with fear and only 25% of the respondents felt that they always work without fear.
15. Only 32% of the respondents always feel secured in employment.
16. Majority of 60% of the respondents never feel supported valued and appreciated by the management.
17. 45% of the respondents always have access to manager and only 18% of the respondents never have access to manager when they needed decision.
18. Only 25% of the respondents are always known that what is expected of them in this job.
19. Only 32% of the respondents always felt that the training authority and resources given is adequate.



20. Majority 51% of the respondents always felt that feed back on their job performance which is helpful to them.
21. 38% of the respondents never felt that the working environment is safe physically and mentally.
22. Only 15% of the respondents said that their duties were always clearly defined in the position.
23. 42% of the respondents said that they were always given sufficient responsibility in their job.
24. Only 28% of the respondents felt that they always treated equally with respect in the company.
25. Only 32% of the respondents said that they always maintain reasonable balance between their work and family.
26. Only 35% of the respondents always feel happy with employee review system in this organization.
27. 40% of the respondents never participate in solving problem in the company.
28. 54% of the respondents felt that the management supports them in their professional development.
29. 32% of the respondents never that the workload is fairly allotted among employees in the organization.
30. Only 33% of the respondents said that the management always provides orientation to new employees.
31. 52% of the respondents felt that the senior management is never open and honest with them.
32. Majority 54% of the respondents never feel that the company has great internet communication.
33. 24% of the respondents always have optimistic view features of about the company.
34. 34% of the respondents always feel that the company is managed well and they trust the leadership.
35. 30% of the respondents never feel that the company provides great employee benefits.
36. Majority 65% of the respondents never enjoyed the good morale of the company.
37. 40% of the respondents always satisfied with job and place of company.
38. 60% of the respondents said that their morale has direct influence on production.
39. There is significant relationship between experience and their opinion on work environment.
40. It can be interpreted from the above table that the respondents have rated first to their Internet communication, second rating to their good management and leadership, third to balance between work and family and fourth to professional development.

## IX. SUGGESTIONS

1. Management should hear and respond of employees regarding their pay, promotion and transfer.

2. It will be more effective if the management take steps to introduce suggestion scheme system for the employees and necessary steps to be taken immediately for the suggestion given by the workers.
3. The management should pay reasonable salary and allowances to the employees according to the cost of living.
4. It is better the management should recognize the needs of employees and encourage them to develop their special talents.
5. It will be better if the management provides incentives to employees so as to boost in their morale and productivity.
6. Supervisors should maintain cordial relationship with workers and recognize their efforts and provide needed guidance to workers.
7. To improve the morale of employee, the management can give performance awards to high performing employees.
8. The company should give a good pay and other monetary benefits to the employees which satisfy them, which will give a sense of motivation to the employees to boost up their performance.
9. Transport facility found to be the most lacking facilities in the organization. The employees coming from far places are not offered such facilities. So the management must take steps to provide better transport facilities.

## **X. CONCLUSION**

From this study it is clear that there are various factors which influence morale and productivity of the employees such as social security, health and security, leaves and holidays, shift system salary, adequacy of training, employees benefits are getting much importance. It is also noteworthy that the factors contributing to low morale could also distrust of management, poor interpersonal relations, labour negotiations and promotion related disputes, changes in leadership, and so on. To conclude employee morale plays very important role in every organisation. Good employee morale helps to success of the organization. Unless an employee has poor morale if always a possibility of employee disharmony and also have an effect on smooth running of the organization. Though the organization has good work environment and good relationship between the employees, most of the respondents are satisfied with facilities provided by organization, shift system and also are dissatisfied with job, pay, workload and relationship with superiors. Thus, the Employee morale in the organization is found to be of dissatisfied. Hence, the management must take stunning effort in improving employee morale in the organisation.

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# Family Involvement In School Children's Education

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## Abstract

Many factors influence students learning. Cognitive factors like intelligence, creativity and memory, affective factors like motivation, social factors like maturation, age, sex, social background and study habits are of great relevance to learning (J.K. Pillai 1998). Good study habits are increasingly important as the child grows older and takes responsibility for his own learning. The family also, at times, instead of being breeding centre for love and affection may be the centre for creating tensions, conflicts and frustrations. There may be sibling rivalry, parental rejection, and unhealthy family atmosphere. Many other social factors may create a sense of insecurity in the student. Economic stress, taboos, restrictions, competition, rivalry are a few stumbling blocks in a student's achievement. These things may affect the behaviour of the student in school. Further, it leads to emotions and frustrations. Conducting counseling sessions can help student to modify emotions. Research reports in India indicate that students seek help of parents and elders to solve their educational problems? These indicate that there is a great need for counseling in schools in India. Our aim of classroom instruction is to optimize the learning outcome. The proper processing in students memory depends upon the amount of information received, quality of processing and the ways of processing. Using memory strategies are decrease the load on the child's information processing system by increasing the efficiency of each process, thus, freeing up space for other tasks. In this study the investigator attempted to give a package of counseling sessions to parents and students and suitable strategy training programmes to students. Due to these intervention strategies the students' learning difficulties were minimized and the achievement levels have been increased considerably.



## **I. INTRODUCTION**

Many factors influence students learning. Cognitive factors like intelligence, creativity and memory, affective factors like motivation, social factors like maturation, age, sex, social background and study habits are of great relevance to learning (J.K. Pillai 1998). Good study habits are increasingly important as the child grows older and takes responsibility for his own learning. The National Policy on Education (1986) emphasized the need for change in the teachers' outlook of teaching and dissemination of instruction. It also emphasized the necessity of identifying the problems of the learners and for planning the learning activities using innovative methods for effective dissemination of instruction. Receiving all the information, instructed in the classroom, depends upon the readiness of the learner. It can be determined by emotions, social background, peers, family situation, etc. The importance of family involvement in the elementary school years can be strengthened with positive results for children and their school success. Parents impart the self-regulation skills that have a lasting effect on their children's ability to relate positively with their peers and to attend and participate in class activities

### **1.1 Responsibility for Learning Outcomes**

- Schwartz, J. et.al., (2006) suggested that the Responsibility for learning outcomes in the elementary school years falls into four main processes: supporting literacy, helping with homework, managing children's education, and maintaining high expectations.
- *Supporting literacy*: Parent involvement in reading-related activities with their children outside of school is strongly related to children's reading performance.
- *Helping with homework*: Parents' involvement in their children's homework can make a difference. When parents guide their children's homework with helpful and appropriate support, children perform better in the classroom. The home environment, including the types of materials and resources parents provide, also affects children's educational outcomes.
- *Managing children's education*: Parents manage and coordinate the different environments—home, school, and community—in which their children learn and develop. When parents manage their children's education by being involved both at home and in school, they affect children's literacy achievement over time through children's feelings about literacy.
- *Maintaining high expectations*: As children progress through the elementary school years, the educational expectations that parents hold for them become increasingly important.
- *Integrate family involvement as part of the elementary school instructional strategy*. Hoover-Dempsey, K. V. et.al.,(2006) stated that Elementary school administrators and teachers often perceive family involvement as an “add on” to school activities rather than part of a key instructional strategy. However, family involvement is one way to make teaching more effective.

The family also, at times, instead of being breeding centre for love and affection may be the centre for creating tensions, conflicts and frustrations. There may be sibling rivalry,

parental rejection, and unhealthy family atmosphere. Many other social factors may create a sense of insecurity in the student. Economic stress, taboos, restrictions, competition, rivalry are a few stumbling blocks in a student's achievement. These things may affect the behaviour of the student in school. Further, it leads to emotions and frustrations. Conducting counselling sessions can help student to modify emotions.

Hence the need for student counseling is imminent. The role of counseling is to sensitise the individual to his potential to determine what he would like to be as an individual. It helps the pupils to understand and classify their views of their life space and to learn to reach their self-determined goals through meaningful. If pupils are denied the opportunity of assimilating the reality of what has happened to them, they may experience acute stress subsequent to the event.

### **1.2 Counselling on Family therapy**

The goal of the family counseling is not merely to remove some symptoms but to create a new way of living. This involves helping people to express emotion. Nathen Ackerman (1958) places enormous emphasis on this approach and the relationship between the individual, family and other social systems is considered to be important in the ecology of human development. He introduced the concept of inter-locking pathologies, whereby the problems of one family member are tied up with interactions with other members. Murray Bowen (1958) introduced the concept of fusion,. Fusion means that various family members cannot act independently of one another and are stuck together forming a vague, amorphous mess. These two concepts are involved in family counselling.

### **1.3 Implementation of intervention strategies**

In these lines the investigator attempted a study on finding difficulties on learning science at high school level. In this study, twelve students were selected from IX standard rural backgrounds high school those who are in low achievement level. The students were asked to narrate their learning difficulties without any fear and hesitation. On the basis of students' statements, the factors related to lower achievement can be assumed with family-related factors, peer-related factors, school-related factors, class room instruction related factors. To overcome all these difficulties, a multi-dimensional approach is needed. The investigator attempted to give a package of counselling sessions to parents and students and suitable strategy training programmes to students for three months. A pre-test and post-test were conducted at the beginning and end of the programme. By comparing these two tests the students' achievement level has been increased considerably. The counseling sessions and strategy training programmes are significant in facilitating science learning. Hence, these programmes could be implemented for improving the quality of learning.

## **II. OBJECTIVES OF THE STUDY**

- i. To identify the difficulties perceived by the students in learning science.
- ii. To prepare a remedial package to overcome the learning difficulties.
- iii. To find out the effect of remedial package on achievement in learning science.

### III. HYPOTHESIS OF THE STUDY

Counselling sessions and Strategy training packages significantly improve the achievement of IX standard students in science learning.

### IV. RESEARCH PROCEDURE

#### 4.1 Tool for the study

- i. **Tool for identification of problem:** Initially the low achieving students were identified. Then the students were asked to narrate their difficulties in classroom learning. They were instructed to be free to express their difficulties. They were assured the confidentiality of their statements.
- ii. **Achievement tests were used for the purpose of pre-test and post-test:** Achievement test was constructed and validated by the investigator. The test included questions of objective type and short answer questions.

#### 4.2 Reliability of the Tool

The reliability of the test was found by parallel form method and it was found to be 0.84 which was significant.

#### 4.3 Sample for the study

The present study was carried out Govt. Higher Secondary School, Thirukogarnam, Pudukottai district, in Tamil Nadu. Twelve low achieving students were selected from standard IX of the school formed as a sample for this study. Quarterly examination marks in science were taken as a basis for the selection.

#### 4.4 Methodology of the study

In this study, all the twelve students faced different problems. Hence, the investigator decided to choose case study method. All the twelve students were dealt with individually.

### V. CONDUCTING THE EXPERIMENT

All the twelve low scoring students were grouped and they were asked to express their difficulties in learning science. They were instructed to be free to express their difficulties in learning science. They were assured the confidentiality of their statements. As a whole, 16 valuable statements were expressed. Most of the students expressed that they understand clearly in the classroom but cannot recall it the other day or even on the same day. Some needed training on memory strategies to enhance the level of Information Processing. Some needed family therapy counseling to the parents; some other needed peer influence counseling to the students.

It was found that eight students expressed retrieval failure. Hence, they were grouped separately and were given training on memory strategies. It included rehearsing, keyword method, imagery and chunking for the period of four weeks. Each student had more than one problem. Hence, each student was dealt with individually and the suitable counseling sessions were conducted separately to the parents and students.

Table 1: Programme of Remedial packages to the Students

S.No.	Problems	Frequency	Remedial Package
1	Bullying by the peers	5	Counselling on peer influences to students to understand to avoid antisocial activities
2	Noise in the classroom.	2	Counselling on motivation to students to avoid noise
3	Discouraging by the peers	2	Counselling on peer influence to students to understand the value clause and understand time management
4	Unnecessary talking	2	Counselling on motivation to students to understand time management
5	Frequent visits of relatives and friends	3	Counselling on family therapy to students and parents to understand to give priority to studies
6	Watching T V by other family members	2	Counselling on family therapy to students and parents to understand to develop adjustability

### 1. Bullying

Three students complained that they were not able to concentrate on studies due to bullying by peers.

Peer influence counseling was organized for the students to understand the psychological impact received by the individual due to bullying and to avoid bullying like antisocial activities.

### 2. Noise

Two students complained that they were not able to concentrate on studies in leisure periods due to the noise produced by peers.

Lack of motivation is one of the reasons for producing noise. A suitable counseling session was organized to the students. They were made to know the healthy peer relationship as a necessity for human development.

### 3. Discouraging

One student expressed his inability to concentrate on studies due to the discouraging words from his peers.

A counseling session on peer influence was organized to the student. He was made to understand social and antisocial activities in peer influences and to understand the value clauses. The student was given training to overcome value clauses and to take right decision.

### 4. Unnecessary talking

One student complained that he could not concentrate on studies due to unnecessary talking of his peers.

This problem is due to lack of motivation. A counseling session on peer influence was organized to the students. In which, they were made to understand to give respect others' feelings and the value of time.



## 5. Frequent visits of relatives and friends

One student narrated his inability to concentrate on studies due to the frequent visits of relatives and friends.

A counseling session was organized to the student and his parents. They were made to understand the interlocking pathologies in family therapy and to give importance to their son's studies. The concept of interlocking pathologies is the problem of one family member tied up with interaction with other members. Further, the parents were made to know how to minimize the disturbances produce by the guests.

## 6. Watching Television by other family members

One student expressed his inability to concentrate on studies due to the disturbances produced by other family members by watching television.

A counseling session was organized to the student and his parents to understand the interlocking pathologies in family therapy and to give importance to their son's studies. Further, the student was motivated to avoid eagerness for viewing television.

## VI. DATA ANALYSIS

After completing the remedial package programme a post-test was conducted. Quarterly exam marks were taken as pre-test scores. The students' pre-test and post-test scores were tabulated and analyzed. Mean and standard deviation were calculated. Will coxon's matched pair signed ranks test were used to find out the impact of the programme.

**Table 2: Mean and standard deviation scores of students in the pre-test and post-test**

S.No.	Test	No of Students	Mean	S.D	Overall Mean	Overall S.D.
1	Pre-test	12	28.4	5.98	53.5	8.4
2	Post-test	12	57.8	7.12	54.8	7.8

The mean scores of the pre-test was less than that of the class average marks. The mean scores of the post-test were greater than that of the class average marks.

**Table 3: Will Coxon's signed ranks test on comparing the mean difference between the post-test and the pre-test scores**

Sl.No.	Experimental group		Difference	Absolute rank of difference	R(+)	R(-)
	Pre-test Scores	Post-test Scores				
1	24	57	33	8	8	
2	27	65	38	10	10	
3	28	69	41	12	12	
4	25	51	26	5	5	
5	18	49	31	6.5	6.5	
6	35	49	14	1	1	
7	33	68	35	9	9	
8	29	50	21	3	3	
9	38	56	18	2	2	
10	29	52	23	4	4	

11	30	69	39	11	11	
12	28	59	31	6.5	6.5	

The calculated value  $z = 3.06$  is greater than the theoretical value 1.96 at 0.025 level of significance. There is significant mean difference between the pre-test and post-test scores of students. It is concluded that the students' achievement in science had improved after implementing remedial package.

## VII. MAJOR FINDINGS

The following are the major findings of the study

1. The students' performance in post-test mean (57.8) is higher than that of the pre-test mean (28.4). This difference in achievement was due to the effect of the remedial package programme.
2. There is significant mean difference between the pre-test and post-test in the students' performance as the calculated value of Will coxon's signed rank test (3.06) is greater than the critical value (1.96) at 0.025 level. Hence, the students' achievement has significantly increased in the post-test than that of the pre-test.

## VIII. CONCLUSION

Over the high school years, children become more autonomous than in early childhood and develop relationships with a wider array of people, including peers and teachers. Children also begin to establish competence in a variety of domains. The three family involvement processes of parenting, home-school relationships, and responsibility for learning are critical to these developmental milestones. High schools have responsibilities to encourage these family involvement processes, and when they do, schools can benefit from their outcomes. For example, parenting that is warm and supported by diverse social networks promotes children's social skills and appropriate classroom behaviors. Home-school relationships characterized by bilateral communication and opportunities for participation in school events and formal parent involvement programs are predictive of children's interest in reading and math, as well as improvements in reading and math achievement. Lastly, when parents take responsibility for children's learning outcomes—including by supporting literacy and homework, managing children's education, and maintaining high expectations—children's motivation and academic competence improves.

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# Effect Of Perceived Parenting Styles On Aggression And Emotional Intelligence Among Adolescents

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## Abstract

*The present study examines the impact of permissive parenting style, authoritarian parenting style, and authoritative parenting style on aggression and emotional intelligence among adolescents. The participants of the present study consists of 261 adolescents of both genders within the age range of 13 to 15 years, studying in classes 7th, 8th and 9th standard of English medium schools in Mumbai. They were assessed by using three different tools namely parental authority questionnaire (Buri, 1992 ), aggression questionnaire (Buss & Perry, 1991) and emotional intelligence test ( Sharma, 2004 ). Participants were divided in three groups based on the high score obtained in the three parenting styles i.e. permissive, authoritarian, and authoritative for understanding the impact of parenting styles on study variables. One way ANOVA was administered to test the hypotheses. The results indicated no significant difference between the adolescent's aggression and emotional intelligence on parenting styles.*

## I. INTRODUCTION

The development of a child and personality is mostly shaped by parenting styles. Parenting style is a psychological construct representing standard strategies which parents use for child rearing. Parenting style refers to how parents respond to the demands of the children. Parenting practices refer to specific behavior while parenting style refers to a broader area of parenting practices. According to Spera (2005); Darling and Steinberg



(1993) parenting practices are the specific behavior or acts whereas parenting style is the overall way or approach toward the children.

The parenting styles are broadly categorized into authoritarian, authoritative and permissive parenting styles. In authoritarian style of parenting children are expected to follow rules established by the parents. Failure to follow them usually ends up in a punishment. Authoritarian parenting usually refuses to give any explanation to the rules given by them. The parents have high demands and expectation from children. Parents are generally reluctant to answer any question asked by their child. Although children may follow the rules and regulation they may have low self-esteem and may be more passive aggressive at times (Baumrind, 1991).

Authoritative parents establish rules and regulations which their children are expected to follow, however they are more democratic. They are more willing to listen to the children and are responsive. Whenever a child is unable to follow the rules and expectations they are more nurturing and not punitive. They use consequences instead of punishments. They also use more positive consequences to reinforce good behavior. Children raised in authoritative parenting tend to be happy and successful. They are often good at decision making and evaluating risks of their own life. As an adult they are more stable emotionally. Permissive parents are also called as indulgent parents have a few demands to make of their children. These parents rarely discipline their children because they have low expectation of maturity and self-control. According to Baumrind (1991), permissive parents are more responsive than demanding, they are nontraditional and lenient, don't require mature behavior, allow considerable self-regulation and avoid confrontation. Kids who grow up in permissive parenting may struggle academically. They may exhibit more behavioral problems as they will likely not appreciate rules and regulations. They often have low self-esteem and report sadness.

The importance of emotional intelligence is important for overall development of a child. Emotional intelligence can be termed as the ability to monitor one's own and other people's emotions, to differentiate different emotions and label them appropriately, and to use emotional information to guide thinking and behavior. Many psychologist and educators believe that even if a child receives exclusive education and may be good in academics he may not be ready for future challenges of life both as individual as well as member of the society. There are times when brightest of the student do not succeed in life as compared to the less intellectual one. The major difference could be of emotional quotient (Singh, 2002). A study was done by Katoch (2013) on emotional intelligence of adolescents in relation to the type of school. Results indicated that intelligence of Private secondary school was higher than emotional intelligence of Government school. However there was no significant difference in the emotional intelligence with regards to gender and area. There was one more study carried on emotional intelligence and social adaptation of school children (Punia & Sangwan, 2010). They were selected on a random basis from the urban and rural schools of the Haryana district. Analysis was made using correlation and Z test. Results indicated that urban children have higher emotional Intelligence and better

adjustment as compared to rural children and emotional intelligence significantly positively correlated with adjustment.

In another study by Joshi and Dutta (2015) on a correlation study of mothers parenting style and emotional intelligence of adolescent learner. The sample comprised of randomly selected 246 students of class 10th from 8 different schools within the age range of 13-15 years. The analysis found that none of the parenting style namely authoritative, authoritarian and permissive of mother was significantly correlated with the overall emotional intelligence of the students. A study conducted by Shalini and Balkrishna (2013) examined the influence of perceived parenting style on the emotional intelligence of college students. The sample comprised of 973 pre university students in the age range on 16 -18 years. Results indicated that both boys and girls perceived their father to be authoritative and not permissive and authoritarian. Girls perceived fathers to be more authoritative than boys. The results also indicated that fathers with authoritarian style positively correlated with emotional intelligence especially with intrapersonal awareness and negatively correlated with interpersonal awareness, interpersonal management and intrapersonal management. Adolescent aggression is a major cause of worry in today's society. There are much news on the news channels which broadcast violence, bullying, and crimes amongst the youth. Although many explanations for aggression have been put forth the term is not easily understood. Aggression in the most misunderstood emotions in the society. Behavior to be aggressive need not be only physical aggression. Verbal aggression is also a form of aggression. Anger, Coercion, intimidation is also other forms of aggression (Sadock & Sadock, 2003).

In another study on adolescent aggression was conducted by Lopez, Perez, Ochoa and Ruiz (2008). The aim of the study was to examine the role of family and classroom environment on the development of individual characteristics including level of empathy, attitude towards institutional authority and perceived social reputation and the role these characteristics may play in school aggression. The results indicate that positive home environment is more protective factor for girls in development of behavior problem at school and classroom environment for boys. The results also indicate a variance at aggression in boys and girls.

## II. HYPOTHESES

1. There is a significant difference between adolescent's aggression and parenting styles.
2. There is a significant difference between adolescent's emotional intelligence and parenting styles.

## III. METHODOLOGY

### 3.1 Participants

The participants of the present study consists of 261 adolescents of both genders within the age range of 13 to 15 years, studying in classes 7th, 8th and 9th standard of

English medium schools in Mumbai. Out of the 261 sample 143 were boys and 118 were girls. Initially 271 participants were screened for the study, out of which 261 were selected who completed the questionnaires properly. The sample of the study was collected through the method of purposive and convenience.

### 3.2 Tools

The study was conducted by using three different psychological tools:

**3.2.1 Parental Authority Questionnaire:** Parental authority questionnaire developed by Buri (1991) was used to measure perceived parenting styles, which classify parenting style as permissive, authoritarian and authoritative parenting styles. The tool consists of 30 items and to be responded on five point likert scale and indicate appropriately as to how they perceive their mother or mother figure's parenting style. The Cronbach alpha values for the subscales range from 0.87 to 0.74. The content, criterion, and discriminant validity were also reported to be high.

**3.2.2 Aggression questionnaire:** The aggression questionnaire by Buss & Perry (1992) was used in this study to measure the aggression among participants. It consists of 29 items and measures physical aggression, verbal aggression, anger, hostility and indirect aggression. The reliability of the tool is 0.88 in physical aggression, 0.76 in verbal aggression, 0.78 in anger, 0.82 in hostility, 0.71 in indirect and total was 0.94 coefficient alpha.

**3.2.3 Emotional Intelligence Test:** Emotional intelligence test by Sharma (2004) was used for measuring emotional Intelligence. It consists of 60 items based on Golemans theory of emotional intelligence. Emotional intelligence in this test has been categorized into five domains, which are self-awareness, managing emotions, self-motivation, empathy and handling relationships. The test-retest reliability of .80 is reported. Validity of the test was established by using content validity, criterion related validity and construct validity.

### 3.3 Procedure

Participants were student between the age ranges of 12 to 15 years. In order to obtain permission from the school a prior contact was made by taking appointment with the Principal of the school. Permission was granted by the school after discussing the nature of the study, the time required and assurance of complete confidentiality. Then the nature of the study was explained to the class teacher of the respective classes. Before actually conducting this study a short prior contact was made with the respective participants and the objective was explained to the participants. A letter of consent was handed over to the participants to seek permission to participate in the study from their parents. On receiving the letter of consent from parents a day was decided to carry out the actual data collection. Then instructions were given to the participants regarding filling up of questionnaires. After completion of the questionnaires, scoring and tabulation of the data, it was subject to statistical analysis. The data was collected over a span of two weeks in the month of January 2015.

#### IV. RESULTS & DISCUSSION

Participants in the study were divided in three groups depending on the high scores obtained at each of the parenting style. According to the parental authority questionnaire (Buri, 1991), the scores obtained above 30 in a particular style are considered to be high scores. The data was divided according to these criteria. There were students who score above 30 at all the three styles. Those who were too close were discarded and those who had a fair gap. The highest among the three was taken as considered the dominant parenting style. The final sample size for analysis was 227. The distribution of total sample size in each of the parenting style is shown in Table 1.

**Table 1: Number of Participants for each Parenting Style**

Parenting style	Number of Participants
Authoritarian	61
Authoritative	96
Permissive	71
Total	227

The results of the descriptive statistics of the means and standard deviations for aggressiveness are shown in Table 2, and Table 3 shows the result of one way analysis of variance for aggressiveness. The results of the descriptive statistics of the means and standard deviations for emotional intelligence are shown in Table 4, and Table 5 shows the result of one way analysis of variance for emotional intelligence.

**Table 2: Mean and SD's for Aggressiveness**

Parenting Styles	Means	SD's
Permissive	68.27	16.27
Authoritarian	68.27	16.37
Authoritative	68.10	16.25

**Table 3: Analysis of Variance for Aggression**

Groups	Sum of Square	df	Mean Square	F	Sig.
Between Groups	199.55	2	98.07	0.35	0.70
Within Groups	63846.73	225	283.76		
Total	64043.28	227			

Hypothesis 1 of the study stated that 'there is a significant difference in the adolescent's aggression according to parenting styles', for testing this hypothesis one way analysis of variance was conducted. After comparing the scores of mean and S.D's of the three parenting style i.e. permissive style (M = 68.27, S.D. = 16.27), authoritarian style (M = 68.27, S.D = 16.37), authoritative style (M = 68.10, S.D = 16.25), as presented in Table-2, it can be seen that there is no major difference between the adolescent aggression scores on parenting styles. To analyze this further one way analysis of variance was conducted to find out the significant difference. Result indicates that the 'F' value was 0.35 which is not significant at 0.05 levels. This shows that there is no significant difference between the adolescent aggressions according to parenting styles. Thus, the results do not support the



hypotheses. This means there is no impact of parenting styles on aggression in the current participants.

Similar trend is observed in a recent study conducted by Torre-Cruz et al. (2014) on the relationship between parenting style and aggressiveness in adolescents. The study was conducted on 317 participants in the age range of 12-16. Results indicated that there is no relationship between ingressive nests and parenting styles. There is one more study on parenting style and delinquency in adolescents (Okorududu, 2010). The result by regression analysis indicated that there is no significant relationship between any of the parenting style and adolescent aggressiveness. Aforementioned studies supported the findings of present study. However, there could be also some studies which suggest that there could be the impact of parenting style in adolescent. A study conducted by Kawabata et al. (2010) to analyze the effect of parental behaviors on the relational aggression on adolescents. The results of the meta- analysis suggested that positive parenting was related to less aggression, whereas harsh parenting or uninvolved parenting was associated with increased aggression.

Similarly there was study conducted on adolescent aggression by Lopez, Perez, Ochoa, Ruiz (2008). The aim of the study was to examine the role of family and classroom environment on the development of individual characteristics including level of empathy, attitude towards institutional authority and perceived social reputation and the role these characteristics play in school aggression. The study was conducted over 1319 adolescents within the age range of 11-16. The results indicate that positive home environment is more protective factor for girls in development of behavior problem at school and classroom environment for boys. The results also indicate a variance at aggression in boys and girls however in this case one point could be noted that sample size was large and varied. Another factor which is very important in today's generation is emotional quotient. There was a long debate on the factor which is more important emotional quotient or intelligence quotient. According to Goleman (1995) emotional quotient is learned and not innate. He says individuals are born with general emotional intelligence that determines the capacity for learning emotional competencies. As from the context of our study positive family environment could mean authoritative parenting style. Thus, it can be concluded that there may or may not be a relationship between parenting style and aggression.

**Table 4: Mean and SD's for Emotional Intelligence**

Parenting Styles	Means	SD's
Permissive	210.88	21.66
Authoritarian	210.58	21.49
Authoritative	210.48	21.75

**Table 5: Analysis of Variance for Emotional Intelligence**

Groups	Sum of squares	df	Mean Square	F	Sig.
Between Groups	350.34	2	175.17	0.38	0.684

Within Groups	103607.13	225	460.47		
Total	103957.47	227			

Hypothesis 2 of the study stated that ‘there is a significant difference in the adolescent's emotional intelligence according to parenting styles’, for testing this hypothesis one way analysis of variance was conducted.

After comparing the scores of mean and S.D's of the three parenting style i.e. permissive style (M = 210.88, S.D. = 21.66), authoritarian style (M = 210.58, S.D = 21.49), authoritative style (M = 210.48, S.D = 21.75), as presented in Table-4, it can be seen that there is no major difference between the adolescent emotional intelligence scores on parenting styles.

To analyze this further one way analysis of variance was conducted to find out the significant difference. Result indicates that the 'F' value was 0.38 which is not significant at 0.05 levels. This shows that there is no significant difference between the adolescent emotional intelligence according to parenting styles. Thus, the results do not support the hypotheses. This means there is no impact of parenting styles on emotional intelligence in the participants of the present study. This trend was similarly noted in a study conducted by Pichaypinyo et al. (2008); on parenting style, emotional intelligence and intelligence quotient. The data was collected from school children and caregivers. The tools used for the study were parenting style questionnaire, emotional intelligence questionnaire and Raven's Standard Progressive Matrices. The result of one way analysis of variance indicated that there is no significant relationship between parenting styles and emotional intelligence and neither IQ. One of the reason for this as noted in the research was low socio economic background of the participants and might be due to less rapport during the contact class.

Similar trend was noted by Joshi and Dutta (2015) while conducting a study to find out the correlation between mothers perceived parenting style on emotional intelligence of adolescence in the age range of 13-18. The results showed that parenting style has no significant relationship with emotional intelligence. However; some studies indicate significant relationship between parenting style and emotional intelligence. A study conducted by Bhatia (2012) on family relationship and emotional intelligence among adolescents. The result indicated that there is a significant relationship between emotional intelligence and parental acceptance and significant negative relation between emotional intelligence and parental avoidance. The results indicated that students with perceived authoritative style were high on emotional intelligence and students who perceived neglectful parenting were lowest on emotional intelligence. Thus the various studies above suggest that there may or may not be a significant relationship between parenting style and emotional intelligence.

These findings can be explained in two possibilities. First, the failure to support the hypotheses might be due to the fact that participants were from few schools. Second, it seems that participants may not have provided responses after understanding the meaning of

the test items, it may have occurred due to lack of rapport during contact session and before collection of data.

## V. CONCLUSION

It is seen that there is no significant impact of parenting styles on aggression and emotional intelligence of the adolescents.

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# A Comparative Presentation of Shangshak Tangkhul and Kabrang Tangkhul Numerals

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## Abstract

*This paper highlights the comparative presentation of Shangshak Tangkhul and Kabrang Tangkhul numerals. The Shangshak Tangkhul is spoken in the Shangshak village of Ukhrul central sub-division and Kabrang Tangkhul of the Kabrang village (an old village) in the Thoubal district, Manipur, India. The Shangshak Tangkhul and Kabrang Tangkhul languages belong to Tibeto-Burman language family, (G.A. Grierson, 1904). Numerals in Shangshak Tangkhul and Kabrang Tangkhul can be analysed as- cardinal, ordinal, multiplicative, aggregative, approximative, fractional, indefinite, distributive and restrictive. There are twelve basic numerals in Shangshak Tangkhul and Kabrang Tangkhul. Shangshak Tangkhul basic numerals are - əvka 'one', khənnə 'two', kəthun 'three', mədzə 'four', phəŋe 'five', thəru 'six', snə 'seven', cəsa 'eight', zəko 'nine', thərekə 'ten', sekə 'hundred', theiŋkə 'thousand'. Kabrang Tangkhul basic numerals are - əkhət 'one', kini 'two', anthum 'three', məlli 'four', rəŋŋa 'five', kuruk 'six', siri 'seven', əret 'eight', əko 'nine', som 'ten', rija 'hundred' and lisiŋ 'thousand'.*

## I. INTRODUCTION

The two languages, Shangshak Tangkhul and Kabrang Tangkhul are included to the Naga group of the Tibeto-Burman language family. The Shangshak Tangkhul language is spoken in the Shangshak village of Ukhrul central sub-division, at a distance of about 65 km. from Imphal. It has a population of 3,466 (Census 2011). Kabrang Tangkhul of the Kabrang Village (an old village) in the Thoubal district has a population of 323 (Census, 2011). It is about 25 km. far away from Imphal.

## II. NUMERALS

Numerals in Shangshak Tangkhul and Kabrang Tangkhul can be categorized as follows:

- i.) Cardinal
- ii.) Ordinal

- iii.) Multiplicative
- iv.) Aggregative
- v.) Approximative
- vi.) Fractional
- vii.) Indefinite
- viii.) Distributive and
- ix.) Restrictive.

## 1. CARDINAL NUMERAL

The cardinal numerals of Shangshak Tangkhul and Kabrang Tangkhul are divided into two types:

- a) Basic Cardinal
- b) Compound Cardinal

### a) Basic Cardinal

The basic cardinal numerals in Shangshak Tangkhul and Kabrang Tangkhul are illustrated below:

	Shangshak	Kabrang	Gloss
1.	əvkə	ək <sup>h</sup> ət	“one”
2.	k <sup>h</sup> ənnə	kini	“two”
3.	kət <sup>h</sup> uŋ	ant <sup>h</sup> um	“three”
4.	mədzə	məlli	“four”
5.	p <sup>h</sup> əŋe	rəŋŋa	“five”
6.	t <sup>h</sup> əru	kuruk	“six”
7.	snə	siri	“seven”
8.	cəsa	əret	“eight”
9.	zəko	əko	“nine”
10.	t <sup>h</sup> ərekə	som	“ten”
11.	ʃekə	rija	“hundred”
12.	t <sup>h</sup> eiŋkə	lisiŋ	“thousand”

### b) Compound Cardinal

The compound cardinal numerals of these two languages are placed as below:

- i. Additive compound
- ii. Multiplicative plus additive compound and
- iii. Higher Multiplicative compound.

#### i) Additive Compound

In Shangshak Tangkhul, the numerals from eleven to thirty nine constitute the additive compound. Here, in the process of adding the basic numerals from one to nine to the three decade numerals – t<sup>h</sup>ərekə “ten”, məkukə “twenty” and t<sup>h</sup>uŋrekə “thirty”, the suffix – kə is replaced by –nə as follows :

	Shangshak		Gloss
13.	t <sup>h</sup> arenə - əvkə	10+1	“eleven”
14.	t <sup>h</sup> arenə - snə	10+7	“seventeen”
15.	məkunə - mədza	20+4	“twenty four”
16.	məkunə - cəsa	20+8	“twenty eight”
17.	t <sup>h</sup> uɣrenə - p <sup>h</sup> əɣe	30+5	“thirty five”
18.	t <sup>h</sup> uɣrenə - zəko	30+9	“thirty nine”

In Kabrang Tangkhul, the numerals from eleven to nineteen are additive compounds, they being formed by adding the basic numerals to the decade numeral **som** “ten”. Only the ə- from **ək<sup>h</sup>ət** “one” is deleted while being added to **som** “ten” as shown:

	Kabrag		Gloss
19.	som - k <sup>h</sup> ət	10 + 1	“eleven”
20.	som - kini	10 + 2	“twelve”
21.	som - ant <sup>h</sup> um	10 + 3	“thirteen”
22.	som - siri	10 + 7	“seventeen”
23.	som - əko	10 + 9	“nineteen”

## ii) Multiplicative Plus Additive Compound

For Shangshak Tangkhul, the numerals from forty one to ninety nine are placed here. They are formed by the multiplication of the decade numeral (ten) by the numeral from four to nine and finally by the addition of the desired numeral (one to nine). Here, the prefix **t<sup>h</sup>əre** – “ten” changes to **daum-**.

	Shangshak		Gloss
24.	daum - mədzaənə əvkə	10 x 4 + 1	“forty one”
25.	daum - p <sup>h</sup> əɣenə t <sup>h</sup> əru	10 x 5 + 6	“fifty six”

The numerals from the following that is, 101 – 109, 201 – 209, 301 – 309 etc. are formed in accordance with the following two formulae:

- Century x basic numeral + **əpe** + numeral and
- Mega x basic numeral + **əpe** + numeral.

### a) Century x basic numeral + əpe + numeral

For example,

	Shangshak		Gloss
26.	ʃe - kə əpe əvkə		“one hundred and one”
	hundred one addition one		

### b) Mega x basic numeral + əpe + numeral

For example,

	Shangshak		Gloss
27.	t <sup>h</sup> eiŋ - zəko əpe p <sup>h</sup> əɣe		“nine thousand and five”
	thousand nine addition five		

In Kabrang Tangkhul, numerals from 21 - 29, 31- 39, 41 - 49 etc. are multiplicative plus additive compound numerals. Examples are:

	Kabrang		Gloss
28.	som - nijak <sup>h</sup> ət	10 x 2 + 1	“twenty one”
29.	som - nijamalli	10 x 2 + 4	“twenty four”
30.	som - t <sup>h</sup> umək <sup>h</sup> ət	10 x 3 + 1	“thirty one”
31.	som - lijak <sup>h</sup> ət	10 x 4 + 1	“forty one”
32.	som - rukək <sup>h</sup> ət	10 x 6 + 1	“sixty one”

As shown by the above examples, if the basic cardinal added to **som** “ten” ends in /i/, /ja/ is added before the next following basic cardinal. Also if the preceding symbol is a vowel, the ə - of the ensuing cardinal usually gets deleted. Moreover, the first syllable of the basic cardinal added to **som** “ten” gets deleted.

### iii) Higher Multiplicative Compound

In Shangshak Tangkhul, Multiples of hundred and thousand are formed by deleting – **kə** from the word **ʃəkə** “hundred” and **t<sup>h</sup>eiŋkə** “thousand” as noted below:

	Shangshak	Gloss
33.	ʃe - k <sup>h</sup> ənnə	“two hundred”
34.	t <sup>h</sup> eiŋ - t <sup>h</sup> ərekə	“ten thousand”

In the case of Kabrang Tangkhul, the first syllable of the basic cardinal added to **rija** “hundred” or **lisiŋ** “thousand” gets deleted except in the case of two cardinals **kini** “two” and **siri** “seven” as notified below:

	Kabrang	Gloss
35.	rijakini	“two hundred”
36.	rijasiri	“seven hundred”
37.	lisiŋk <sup>h</sup> ət	“one thousand”

The cardinal numerals can occur only after the noun. The asterisk mark (\*) represents the ungrammatical sentences used in the following examples.

	Shangshak	Kabrang	Gloss
38.	ha cəsa	əpi əret	“eight hens”
	hen eight	hen eight	
	*cəsa ha	*əret əpi	“eight hens”
	eight hen	eight hen	
39.	ku ʃə əvkə	humpi ək <sup>h</sup> ət	“one tiger”
	tiger one	tiger one	
	*əvkə ku ʃə	*ək <sup>h</sup> ət humpi	“one tiger”
	one tiger	one tiger	

## 2. ORDINAL NUMERAL

The ordinal “first” is denoted by **k<sup>h</sup>ərər** in Shangshak Tangkhul and **lumsata** in Kabrang Tangkhul. Second to ninth is expressed by prefixing **kə** - to the cardinal numbers in Shangshak Tangkhul. From tenth onwards, the ordinal numeral is the same as the cardinal numeral.



For Kabrang Tangkhul, ordinal numerals from second onwards are formed by suffixing – **caṇal** to the cardinal numeral.

Examples:

	Shangshak	Kabrang	Gloss
40.	k <sup>h</sup> ərər	lumsata	“first”
41.	kə - k <sup>h</sup> ənnə	kini - caṇna	“second”
42.	kə - cəsa	əret - caṇna	“eight”
43.	t <sup>h</sup> ərekə	som - caṇna	“tenth”
44.	məkukə	som - kini	“twentieth”

The ordinal can occur before or after the noun as shown below:

	Shangshak	Kabrang	Gloss
45.	k <sup>h</sup> ərər əwei first flower	lumsata ləipa first flower	“the first flower”
45(a).	əwei k <sup>h</sup> ərər flower first	ləipa lumsata flower first	“the first flower”
46.	kəzəko əku ninth insect	əkocaṇna aki ninth insect	“the ninth insect”
46 (a).	əku kəzəko insect ninth	aki əkocaṇna insect ninth	“the ninth insect”

### 3. MULTIPLICATIVE NUMERAL

In Shangshak Tangkhul, **-sə** is suffixed to the cardinal numeral to obtain a multiplicative numeral while in Kabrang Tangkhul, “**hum**” is prefixed to the cardinal numeral which in turn is suffixed by “**caṇwal**” (redundant). But in the case of “once” only **hum** is prefixed to the cardinal numeral. Illustrations are as follows:

	Shangshak	Kabrang	Gloss
47.	əvkə - sə	hum - k <sup>h</sup> ət	“once”
48.	k <sup>h</sup> ənnə - sə	hum - kini - caṇwa	“twice”

### 4. AGGREGATIVE NUMERAL

**-nə** is suffixed to the cardinal numeral to derive the aggregative numeral in Shangshak Tangkhul while it is derived in Kabrang Tangkhul by prefixing “**punnə**” (altogether) to the cardinal numeral as in the following :

	Shangshak	Kabrang	Gloss
49.	k <sup>h</sup> ənnə - nə	punnə - kini	“all the two”
50.	snə - nə	punnə - siri	“all the seven”

### 5. APPROXIMATIVE NUMERAL

For approximative numerals, **-səkə** “about” and **ant<sup>h</sup>aloije** “about” are suffixed to the cardinal numerals for Shangshak Tangkhul and Kabrang Tangkhul respectively as indicated below:

Shangshak	Kabrang	Gloss
51. əvkə - səkə	ək <sup>h</sup> ət - ant <sup>h</sup> aloije	“about one”
52. kət <sup>h</sup> uŋ - səkə	ant <sup>h</sup> um - ant <sup>h</sup> aloije	“about three”

## 6. FRACTIONAL NUMERAL

Shangshak Tangkhul and Kabrang Tangkhul have two monomorphic fractional numerals.

Shangshak	Kabrang	Gloss
53. əkiŋəu	ace	“piece”
54. taŋk <sup>h</sup> i	təŋk <sup>h</sup> ai	“half”

Further for dimorphic fractional numerals, **kəsulə** “segment” and **tai** “segment” are infixed between two cardinal numerals, the larger numeral preceding the smaller one.

For example,

Shangshak	Kabrang	Gloss
55. kət <sup>h</sup> uŋ kəsulə əvkə	ant <sup>h</sup> um tai ək <sup>h</sup> ət	“one third”
56. p <sup>h</sup> əŋe kəsulə mədzə	rəŋŋa tai məlli	“four fifth”

## 7. INDEFINITE NUMERAL

For the indefinite numeral, some commonly used expressions in both the languages are:

Shangshak	Kabrang	Gloss
57. aka	sak <sup>h</sup> ət	“some”
58. daurekə	pitti	“many”
59. kətuŋkə	məjam	“group”
60. ədaŋ	əpun	“bunch”

## 8. DISTRIBUTIVE NUMERAL

The marker **-ri ʃi** is suffixed to the cardinal numerals to denote the distributive numerals in Shangshak Tangkhul while the same cardinal numeral is repeated in Kabrang. For instance;

Shangshak	Kabrang	Gloss
61. əvə -ri ʃi	ək <sup>h</sup> ət -ək <sup>h</sup> ət	“one each”
62. k <sup>h</sup> ənnə -ri ʃi	kini -kini	“two each”

## 9. RESTRICTIVE NUMERAL

The restrictive numeral is formed by suffixing **-mə** to the cardinal numeral in Shangshak Tangkhul and **-jaŋti** in Kabrang Tangkhul.

Shangshak	Kabrang	Gloss
63. əvə -mə	ək <sup>h</sup> ət -jaŋti	“only one”
64. mədzə -mə	məlli -jaŋti	“only four”

For instance;

	Shangshak	Kabrang	Gloss
65.	ərər əvə -mə egg only one	aci ək <sup>h</sup> ət -jaŋti egg only one	“only one egg”
66.	t <sup>h</sup> eivaŋ mədzə -mə tree only four	t <sup>h</sup> iŋkuŋ məlli -jaŋti tree only four	“only four trees”

### III. CONCLUSION

From this analysis, the Shangshak Tangkhul and the Kabrang Tangkhul can be analysed as-cardinal, ordinal, multiplicative, aggregative, approximative, fractional, indefinite, distributive and restrictive. It is also found that the Shangshak Tangkhul and the Kabrang Tangkhul have twelve basic numerals in Shangshak Tangkhul and Kabrang Tangkhul. Shangshak Tangkhul basic numerals are - əvkə ‘one’, k<sup>h</sup>ənnə ‘two’, kət<sup>h</sup>uŋ ‘three’, mədzə ‘four’, p<sup>h</sup>əŋe ‘five’, t<sup>h</sup>əru ‘six’, snə ‘seven’, cəsa ‘eight’, zəkə ‘nine’, t<sup>h</sup>ərekə ‘ten’, jəkə ‘hundred’, t<sup>h</sup>eiŋkə ‘thousand’. Kabrang Tangkhul basic numerals are - ək<sup>h</sup>ət ‘one’, kini ‘two’, ant<sup>h</sup>um ‘three’, məlli ‘four’, rəŋŋa ‘five’, kuruk ‘six’, siri ‘seven’, əret ‘eight’, əko ‘nine’, som ‘ten’, rija ‘hundred’ and lisiŋ ‘thousand’. The compound cardinal numerals of both the languages are - Additive compound, Multiplicative plus additive compound and Higher multiplicative compound. The ordinal number “first” is denoted by **k<sup>h</sup>ərər** in Shangshak Tangkhul and **lumsata** in Kabrang Tangkhul. From second to ninth is expressed by prefixing **kə** - to the cardinal numbers in Shangshak Tangkhul. From tenth onwards, the ordinal numeral is the same as the cardinal numeral. For Kabrang Tangkhul, the ordinal numerals from second onwards are formed by suffixing - **caŋnal** to the cardinal numeral.

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# Micro Teaching Techniques Are The Stepping Stones For The Successful Macro Teaching

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## Abstract

*Coming to understand the vital importance of Micro-teaching skills the investigators have putforth their efforts to study the importance of every micro teaching skill which are essential for Macro teaching. This study focuses the importance of Micro teaching skills by elaborating and exhibiting the difference between a group of teacher trainees teaching performance with and without mastering over 'Micro teaching' skills.*

## I. INTRODUCTION

Indian freedom fighter Dr.T.S.Avinashilingam (1950) remarked 'An ordinary person who is doing extraordinary works not occasionally but consistently is a teacher'. These terms explain us very clearly that a teacher is a competent authority in every respect having no match to him/her. And also this statement reveals that the noble personalities involved in this noble profession should be a personality of a combination of arduous tasks and enormous risks. The teacher should be a multidimensional personality. He/she is responsible for moulding the children a better human/citizen of a nation. So the teacher should have a complete knowledge on the strong and weakness of the children in every aspect. The achievement of making himself/herself strong in handling the children in the class is of vital importance to every teacher. He/she should be a 'Hero' to their children. The teacher should be a 'role model' to the children. Making themselves master over the subject content as well as in the teaching methodology is a must to every classroom teacher. Among these two,



techniques of teaching involved in teaching methodology should be of strong and concrete base which stretches its arms towards the perfect attainment of students' knowledge and the teaching efficiency which tends to both of their efficiency.

For becoming a successful teacher with his teaching after coming across 'macro teaching' practice as a teacher trainee, he/she should have a sound knowledge and master over all the micro teaching skills. The basic principles, ideas and techniques of these micro-teaching skills provide a firm foundation to all those who are involved with the field of education. Basically the micro-teaching is the trail of making the teacher trainees to be fit to face the children exhibiting all the necessary skills(micro-teaching) in an efficient manner and the teaching is highly effective in 'Macro-teaching' as well as creating an ideal teacher after the completion of the course.

## **II. STATEMENT OF THE STUDY**

To show the necessity and importance of the micro- teaching skills for Macro- teaching, the investigators took up the task of Micro- teaching techniques are the stepping stones for the successful 'Macro teaching'. This study focuses the vital importance of various Micro-teaching skills.

## **III. OBJECTIVES OF THE STUDY**

- i) To find out few important Micro- teaching skills those are mostly essential for Macro teaching.
- ii) To find out the teacher educators, the senior most teachers' views on the efficiency teacher trainees teach before receiving Micro- teaching techniques.
- iii) To find out Teacher educators and senior most teachers views on the efficiency of teacher trainees teaching efficiency after attaining Micro- teaching techniques.

## **IV. HYPOTHESIS OF THE STUDY**

- i) There is no significant difference on the teaching efficiency of the teacher educators in between before and after receiving the Micro-teaching skills generally.
- ii) There is no significant difference between the teaching efficiency of the teacher educators in the Pre-test and Post test scores skill wise.

## **V. RESEARCH METHODOLOGY FOR THE STUDY**

The Opinions of the teacher educators and senior most teachers of Higher Secondary Schools were elicited for the study is Pre-test score and Post-test score. Comparisons of both test scores have been considered for this study.

### **5.1 Sample**

- i.) A group of 10 male and 10 female teacher trainees from a reputed college of education in virudhunagar district were selected to show their teaching efficiency before and after attaining 'Micro-teaching techniques'.

- ii.) Teacher educators of that institution and senior most teachers from a government higher secondary school were selected to evaluate their efficiency in teaching in with Pre-test and Post test were selected as the sample of this study.

### 5.2 Tool used for the study

A questionnaire containing 100 items having 50 favourable and 50 unfavourable items based on Likert 5 point scale. In this questionnaire each statement contains five aspects namely strongly agree, agree, No opinion, Disagree and strongly Disagree. This questionnaire comprises of 10 items equally in all the 10 important micro-teaching skills.

### 5.3 Data gathering Process

The investigator directly involved in data collection and collected the data (the Pre-test and Post test scores) from five lecturers from the DIET and five senior most teachers by supplying the questionnaire and requested to mark the evaluation scores of the teacher trainer before and after receiving the micro-teaching skills.

## VI. Analysis and Interpretation of Data

The investigators have made the questionnaire for this study covering the various ten important micro-teaching skills those are highly essential for macro-teaching. The evaluators responses based in their attitude towards the teacher trainees efficiency in both Pre-test and Post test in teaching and handling the class children for favourable items the scores are given as 3-SA, 4-A, 3-N.O, 2-S.D.A, 1-D.A for favourable items and in the reverse order for unfavourable items.

**Table 1: Attitude towards the teacher trainee's efficiency in both Pre-test and Post test in teaching and handling the class children for favourable items**

Background variables	Tests	N	Mean	S.D	S.E	t value
1.Skill of black board writing	Pre test	20	59.87	10.54	2.07	1.23 @
	Post test	20	62.42	11.02		
2..skill of fluency in questioning	Pre-test	20	37.56	11.33		8.02 **
	Post-test	20	63.13	6.64	3.188	
3.Skill of probing questions	Pre-test	20	34.78	11.90	3.457	7.84 **
	Post-test	20	61.89	6.98		
4.Skill of illustration with examples	Pre-test	20	31.09	12.68	3.96	8.63**
	Post-test	20	65.25	6.15		
5.Skill of elaboration	Pre-test	20	30.64	13.34	4.07	8.86**
	Post-test	20	66.71	5.98		
6.skill of reinforcement	Pre-test	20	33.31	12.11		8.13**
	Post-test	20	65.98	6.06	3.71	
7.Skill of communication	Pre-test	20	32.87	12.69		8.42**
	Post-test	20	69.13	5.64	4.31	
8.Skill of stimulation	Pre-test	20	29.86	13.45	4.09	8.79**
	Post-test	20	65.79	6.11		
9.Skill of set-induction	Pre-test	20	28.57	13.98		7.86**
	Post-test	20	59.96	6.91	3.99	
10.Skill of closure	Pre-test	20	32.78	12.73	4.31	8.42**
	Post-test	20	69.11	5.64		

**\*\* denotes significant difference at 0.5 level and @ denotes no significance.**

From the above table it is observed that generally there is a significant difference between the performance of the trainee teachers after receiving and before receiving the micro-teaching techniques as the calculated  $t$  value 3.89 is greater than the tabulated value 1.99 at 0.05 level of significance. It is also observed that though there is significant difference between these two in all the 9 domains except the skill 'Black-board writing' as in exhibiting this skill there has been no significant difference as the calculated  $t$  value is less than that of the  $t$  value at 0.05 level of significance. This reflects that the student teachers who faced 'Macro-teaching skills' after acquiring microteaching techniques showed better performance than their earlier show without mastering over 'micro-teaching techniques.

In the skill wise comparison, in the skill of using PPT, smart classrooms, CC TV lessons absolutely there is a significant difference between the performance of the trainee teachers before and after receiving 'microteaching' techniques. This shows that 'micro-teaching skills are highly essential before facing 'macro-teaching'. Considering all the other remaining 'micro-teaching techniques, the teacher trainees after attaining 'Micro-teaching' techniques have performed better in 'macro-teaching than their performance before attaining micro-teaching skills.

## VII. FINDINGS

### i.) Micro-teaching techniques and their main components

The most appropriate and recommended time schedule for micro-teaching cycle is

Teach-	8 minutes
Feed back-	8 minutes
Re-plan -	12/13 minutes
Re-teach-	8 minutes
Re-feed back-	8 minutes
Total --	45 minutes (purely this is a tentative plan).

This model may be practised by the teacher educators and the trainee teachers in the colleges of education in India. Micro teaching techniques are mostly essential for getting self confidence before 'macro-teaching' program. Those techniques are also used to master over various teaching skills/techniques which are absolutely necessary for tackling a class. The most considered skills of micro-teaching as valuable are the following.

### ii.) Skill of black-board writing

From the earlier era it is concerned that the teaching efficiency is mostly based on Black board writing. The neat and legible handwriting of the teacher easily attract the students and the learning will be more. Nowadays the teaching prospects are mostly concerned with PPT, Smart classroom, CCTV etc; those are concerned with modern technology. There at this juncture the investigators noted that in the skill of black board writing the teacher trainees showed no significant difference in the Pre-test as well as Post test but using the technical devices, it is felt that there is significant difference between the Pre-test and Post test performance scores.

**iii.) Major components of the skill**

- a) Neat and legible presentation of the subject matter in the black board using chalk.
- b) Usage of subject content in an appropriate manner.
- c) Rubbing the black board then and there from top to bottom uniformly.
- d) Cleaning the board completely at the end of the class.

**iv) Skill of using PPT, Smart classroom etc.**

- With the usage of large screen, laptop, desktop computers in a smart classroom situation, the subject matter can be presented step by step as the large and legible letters, pictures and documentation.
- Feedback- The children are motivated to learn.

The teachers feel enthusiasm but they their teaching style and efficiency are getting diminished.

**v) Skill of fluency in questioning**

A good teacher should have highly questioning fluency. This micro-teaching technique employs different questioning techniques and direction. This skill exhibits the teachers' capability in teaching as well as by his/her fluency in questioning by asking questions simultaneously. This technique comprises two types of questions.

- a) Low level questions: A question expects the answer in one or two words or yes or No. It is the lowest or preliminary knowledge level question which expects the knowledge received the subject content which has been just taught earlier.
- b) High level questions: This type of questions expects the answer in a descriptive manner. Questions beginning with 'Wh' words are called as High level questions.

Mostly the technique of 'fluency in questioning' involves with the one or two word answers.

**vi) Skill of Probing questions**

This technique of 'Probing questions' has to be utilized when the students answer is not exactly correct but lacks at a minimum level ie; its depth. This technique of probing, ie; by putting questions one by one in order to get the correct answer. This helps to process information, to deal with especially the 'Wh' word questions.

**Major components**

The major components of this technique are 'Basic questioning and 'Questions on elaboration'.

'Basic questioning' mostly is of the vital stage which has the sub skills viz;-Focussing, identifying, Directing, Distributing and Prompting.

'Questions on Elaboration' comprises the sub skills viz; Comprehension, Application, Analysis, recollecting and Probing.

**vii) Skill of Illustration with examples**

This Micro-teaching technique is useful to the class room teacher to teach a concept providing with few more examples. By observing the examples the students can understand the actual idea/concept of the topic which is taught.

**Major components**



The major components have involved are black board usage, explanation, students response, usage of Aids and appliances, demonstration etc.

#### **viii) Skill of elaboration**

This `micro-teaching` technique exhibits the teaching efficiency of the teacher trainees. This technique is used by the teacher trainees to elaborate the components of the topic one by one not by simply pronouncing but by demonstrating and adding few more words about that.

##### **Major components**

- Explanation of every simple item
- Known to unknown procedure

#### **ix) Skill of reinforcement**

This `microteaching technique` has to be used by the teacher trainees to increase the students` involvement in understanding their subject topic. This technique is used to encourage the slow learners or the children with some other visible/invisible disabilities. This kind of positive approach strengthens the understanding capability as well as self intuition which lead to students` valuable participation.

##### **Major components**

- Awakening the cognitive progress
- Cross-check the understanding level
- Verbal communication
- Gesture reinforcement
- Activity oriented communication

#### **x) Skill of communication**

A good classroom is of well communication` (Neicer, 1959). As per his statement, communication plays vital role in `Learning`. It is an important aspect of education. Teacher as well as the students should have a good communicative ability. The interaction between the teacher and the learners is highly important for `learning`. An ideal teacher should possess proper communication of information to the student is also an important `micro-teaching` technique.

##### **Major components**

- a) Students` receiving and understanding capability
- b) Getting feed back
- c) Exchange of thoughts, ideas, important concept on the subject.
- d) Giving and borrowing of information.
- e) Then and there evaluation of understanding.

#### **xi) Skill of stimulation**

Stimulating the students towards the topic/lesson is the very important task of the teacher. This technique covers the activities those a teacher can introduce to present the main theme/idea/concept of the lesson/topic. This technique comprises of mainly three things viz; the style, manner, and voice of the teacher while teaching with the aids and appliances and the students-teacher relationship.

##### **Major components of the skill**

- a) Teachers pre-knowledge on the topic.
- b) Teachers idea on the students earlier ideas related to the topic which is going to be taught
- c) Teachers gestures while teaching.
- d) Teachers style of teaching.

**xii) Skill of set- induction**

This Micro-teaching technique has the importance of making the teacher himself to be fit the handle, to teach the topic concerned. He/She should be mastered over the content. Preparation before getting into the class plays the vital role in teaching by the teachers. Set is more than a brief induction. Set induction can take many forms, an analogy, a demonstration, posing an intriguing problem.

**Major components**

- a) Earlier ideas, previous knowledge on the particular topic
- b) Teaching in an appropriate way
- c) Idea on how to create interest
- d) Feedback- Effectiveness
- e) Then and there evaluation

**xiii) Skill of closure**

This technique has to be taken place as the end of the teaching session of a particular topic. The teacher has to do this task for his satisfaction as well as strengthening the students receiving and understanding the topic. This technique covers the main points, ideas and concepts of that topic. It is swing up of core-ideas of the topic taught.

**Major Components of the skill**

- a) Summarising the lesson/topic taught.
- b) Recapturing the learner's understanding
- c) Evaluation/Immediate feedback

**VIII. RECOMMENDATIONS**

- a) Every teacher training institution should develop the skills of Micro-teaching and making the teacher trainees to face Macro-teaching efficiently.
- b) Evaluation of the trainees` efficiency on every micro-teaching technique is of vital importance and they ought to be carried out.
- c) SCERT, DIET,RMSA,SSA etc; the government bodies have to focus the importance of Micro-teaching techniques to conduct proper training sessions and to provide the latest technical devices with regard to that.

**IX. CONCLUSION**

As far as "Teacher Education" is concerned, teaching is given the supreme importance. Teaching is also another form of learning. Teacher also learns something new while he/she is teaching a topic. Before facing or tackling the students in a class, the teacher trainees have to master over 'Micro-teaching skills. It is highly useful for providing a better classroom

situation to the children. This study reveals that Micro-teaching is highly and more essential for an effective class room than mere 'Observation'.

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## Counselling Needs Of IX Standard Students In West Tripura District

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### Abstract

Adolescence is a key period in an individual's life which is been described as "the period of great stress, strain, storm, and strife". It is the transition period between the childhood and adulthood. Students of IX standard who are in their adolescence are neither in a position to have the childhood characteristics nor to accept adolescence characters. As they show incomplete mental maturity, they are not in a position to take their own decisions, and hence they are in need of more counselling. In this context a study was been conducted on "COUNSELLING NEEDS OF IX STANDARD STUDENTS IN WEST TRIPURA DISTRICT". The main objective of the study was to investigate the Counselling Needs of IX standard students in some specific areas, and influence of variables on it. For this purpose Descriptive survey method of research was used. A sample of 120 IX standard students were selected randomly from six schools located in West Tripura district. The methodology includes 't' test. The study revealed that though the variables did not influence significantly the counseling needs of students, nearly 72% of IX standard students are in need of moderate counseling.



## **I. INTRODUCTION**

Education is the most important invention of mankind. To achieve the goals of education familiarity as about psychological aspects is essential. Because psychology gives devices, means, efforts and programmes for reaching educational goals. Adolescence is the key phase in an individual's educational career, because adolescence is a period of revolutionary changes. The individual during this period experiences several changes. This is a period of stress and strain where students may not able to take their own decisions. Hence, at this function they need proper guidance and counselling.

The goal of counseling is to help individuals overcome many of their future problems and develop ability to make right and timely independent decisions. In recent times, rapid social change caused by industrialization and urbanization has led to varied and perplexing problems. For most people the pace of change is simply too fast and creates serious problems of adjustment. For development, change is always necessary. And counselling helps individual to make changes in their attitudes, perceptions and personality. This means that counselling should start early in school and should continue in order to enable individuals to meet vocational and personal problems of adjustment in later life. Individuals are provided assistance to enhance their personal, social, emotional and intellectual development.

The major objective of counselling is to help individuals become self –sufficient, self –dependent, self –directed and to adjust themselves efficiently to the demands of a better and meaningful life. It is directed towards prevention of maladjustment rather than merely removal of problem. Counselling is the scientific process of helping the individual to understand him/herself better in relation to his/her environment so that he/she becomes self-dependent, self- directed and self- sufficient and is able to lead a better and meaningful life.

## **II. COMPONENTS OF COUNSELING NEEDS**

A standardised counselling inventory was prepared by adopting the counselling inventory used by university of Minnesota. Seven components are given in the inventory. They are as follows.

### **1. Family Relations (F.R)**

The score on this scale refers to the relationships between the student and his family. Students with low scores are most likely to have friendly and healthy relationships with parents and with brothers and sisters. They probably receive much affection in the home and feel much affection towards members of their families. High scores suggest conflicts or maladjustments on family relationships. Such scores are most frequently obtained by students who have difficulties with their parents or brothers and sisters. These students usually feel that their parents are unreasonably strict and demand too much of them.

### **2. Social Relationships (S.R)**

Scores on this scale refer to the nature of the student's relations with other people. Low score are often characteristic of gregarious and socially mature individuals. Students with low

scores usually appear to be happy and comfortable when with group of students or adults. Students with high scores are likely to be socially inept or under socialized persons. They often seem to be unhappy and uncomfortable when with groups of students or adults: they do not enjoy talking or associating with others.

### **3. Emotional Stability (E.S)**

Low scores characterize emotionally stable individuals. Such students seldom worry; are not likely to be self – conscious or lacking a self – confidence. Tend to be calm and relaxed most of the time. Fairly asking advice, they are capable of making their own decisions. They do not show fear in new or strange situations and usually behave efficiently in emergencies. High scores characterize students who are frequently unhappy and in general appear to be emotionally unstable. These students often over react emotionally to what appears to be unhappy situations. They may lose their tempers easily and frequently to moody or irritable. They often appear tense or anxious and weep under stress. In new situations they may be either fearful and timid or overly aggressive.

### **4. Conformity (C)**

The scores on this scale indicate the type of adjustment. A student makes in situations requiring conforming or responsible behavior. Students with low scores are usually reliable and responsible, conforming to rules and behaviour codes even when they may not agree with them. Instead of rebelling against such regulations, these students attempt to have changed through orderly procedures. They ordinarily show respect to persons in authority. Students with high score are likely to be irrationable, impulsive and rebellions. They may appear to earn little from experience, committing the same offense repeatedly even though verbally acknowledging it to be wrong. These students are individualistic and self – centered.

### **5. Adjustment to Reality (R)**

This scale refers to a student's way of dealing with reality –whether he approaches threatening situations in order to master them or withdraws from them in order to avoid them. Students with low scores seem to deal rather effectively with reality. They are able to make friends and establish satisfactory relationships with groups. Students with high scores on the Reality scale have difficulty, making friends and establishing relationships with groups. They are often withdrawn, shy, sensitive, and easily embarrassed. However, they usually reveal little emotion. In speaking they may ramble and introduce irrelevant details. They may write odd themes, or work on peculiar inventions or hobbies.

### **6. Mood (M)**

This scale indicates a student's usual mood or emotional state. Low score characterise students who maintain good or appropriate morale. These students are cheerful most of the time. When depressed or discouraged, they quickly recover. They frequently smile and laugh and are enthusiastic about subjects, friends and activities. Being self- confident, they regard the future optimistically and make long range plans. Furthermore, they are enthusiastic and optimistic about the plans of others. High scores are usually obtained by students with poor morale. Such students seem to be depressed and “blue” most of the time. Classmates may regard them as “wet blankets”. Students with high scores on the mood scale lack self-

confidence and frequently feel useless. Moreover, they lack hope in the future and complain of the hopelessness of trying to do things.

### **7. Leadership (L)**

The scores on the L scale are related to those personality characteristics reflected in leadership behavior. Students with low scores outstanding leadership skills and in general know how to work well with others. They readily assume responsibilities in groups to which they belong and show initiative in developing and carrying out ideas. Students with high scores in the leadership scale are often inept in social situations and likely to avoid participation in groups. Pending further studies, high scores should be understood as merely indicating lack of leadership qualities.

Variables such as Gender, Residence, Medium of Instruction, and Type of School were also studied.

## **III. OBJECTIVES**

1. To Study the Counselling Needs of IX standard students along with their classifications.
2. To study the Counselling Needs of IX standard students with respect to the following areas.
  - a) Family relationships
  - b) Social relationships
  - c) Emotional stability
  - d) Conformity
  - e) Reality
  - f) Mood
  - g) Leadership
3. To find out the influence of following variables on Counselling Needs of IX Standard Students.
  - a) Residence
  - b) Gender
  - c) Medium of instruction
  - d) Type of school

## **IV. HYPOTHESES**

1. There would be no significant difference between the counselling needs of rural and urban students.
2. There would be no significant difference between the counselling needs of boys and girls.
3. There would be no significant difference between the Bengali and English medium students
4. There would be no significant difference between the private and government school students.

## **V. DESIGN AND METHODOLOGY**

The investigator employed descriptive survey method of research for the present study. A sample of 120 students of IX standard was selected randomly from six schools of West Tripura District. Sample was collected from government, and private schools consisting of boys and girls of rural and urban students.

### **5.1 Sample Design:**

**Table 1: Sample collected from government, and private schools consisting of boys and girls of rural and urban students**

SI No.	Name of the School	No. of Students	
		Boys	Girls
1	Lembucherra High School	10	20
2	Fatikcherra High School	10	11
3	Mohanpur High School	10	
4	Sri Krishna Mission School	9	10
5	Bhavans Tripura Vidya Mandir	10	10
6	Pranavananda Vidya Mandir	10	10

## 5.2 Tools:

A standard counselling inventory prepared by adapting the counselling inventory used by *Ralph.F.Berdie* and *Wlbur L. Layton*, university of Minnesota. The inventory consists of 64 items, under each item the responses ranging from 1-10 are given below.

**Table 2: A standard counselling inventory**

Items	Area
10	Family Relations
9	Social Relationships
10	Emotional Stability
10	Conformity
10	Reality
9	Mood
6	Leadership

According to this inventory higher the scores, higher the counselling needs and lower the scores, lower the counselling needs. The score ranges from 0-64. These score are categorized as low, moderate and high.

## VI. STATISTICAL ANALYSIS AND INTERPRETATION

The data was analyzed using 't' test .

**6.1 : To study the counselling needs of IX standard students along with their classification.**

**Table – 6.1.1: Mean, S.D., Skewness, Kurtosis of Counselling Needs of IX Standard Students**

N	Mean	S.D	SK	KU
120	24.458	7.153	0.256	-0.495

The Mean (24.458) shows the requirement of counselling needs of IX standard students in West Tripura District. The standard deviation is 7.153, which shows heterogeneity of distribution of scores. The distribution of scores of counselling needs show positive skewness, which means most of the students go to the right side of the mean average scores. Counselling which is oriented to children with problem seems to be average. The kurtosis value -0.495 shows leptokurtic nature of the distribution.



Table – 6.1.2: Classification of sample into Low, Moderate and High Categories based on N

S.No	Classification	Category	N	% of N	Order of Merit
01	Low	0-20	34	28.33	II
02	Moderate	21-40	84	70.00	I
03	High	41-64	2	1.67	III

From the above table it can be seen that out of 120 students 70% of them have moderate counselling needs, 28.33% of them have low counselling needs and only 1.67% of students have high counselling needs, where in the need for counselling to those students is more. Nearly 72% of IX standard students at present have a moderate counselling need which is an alarming trend of the adolescent population.

## 6.2 : To Study the Counselling Needs of IX Standard students with respect to following areas.

1. Family Relations
2. Social Relations
3. Emotional Status
4. Conformity
5. Reality
6. Mood
7. Leadership

Table-6.2: Area, Mean, % of Mean, S.D., and order of Merit of Counselling Needs.

S.No	Area	Mean	% of Mean	S.D	Order of Merit
1.	Family Relation	3.6	14.77	1.445	IV
2.	Social Relation	2.458	10.09	1.896	VI
3.	Emotional Status	4.567	18.74	1.956	I
4.	Conformity	4.05	16.61	1.46	II
5.	Reality	3.933	16.11	1.935	III
6.	Mood	3.425	14.07	1.459	V
7.	Leadership	2.35	9.64	1.15	VII

The percentage of mean in the area of Emotional Status is found to be the highest (18.74%), when compared to the other areas such as family relations, social relations, conformity, reality, mood and leadership. The percentage of mean in the area of leadership is found to be the least (9.64%). The need for counselling follows the following order with respect to different areas of counselling. The first need goes to the area of counselling is emotional status followed by Conformity (II), then reality (III), family relations (IV), mood (V), social relations (IV), and lastly leadership (VII). The needs for counselling in different areas shows an increasing tendency.

## 6.3 (Hypothesis 1) : There would be no significant difference between the counselling needs of rural and urban students.

Table-6.3: Mean, S.D., and 't' value of Counselling Needs of Rural and Urban Students.

S.No	Category	N	Mean	S.D	't' Value
1.	Rural	51	23.765	7.353	0.907 <sup>NS</sup>
2.	Urban	69	24.971	7.01	

NS- Not Significant

The mean scores obtained for rural and urban students in the counselling inventory are 23.765 and 24.971 respectively. The table value reveals that there is no significant difference between rural and urban students in their counselling needs. The difference is not significant as the obtained 't' value (0.907) is less than 't' table value (2.58) at 0.01 level of significance. It can be seen that the students of rural and urban school students are in need of moderate counselling.

#### 6.4 (Hypothesis-2) : There would be no significant difference between the counselling Needs of Boys and Girls.

Table – 5: Mean, S.D., and 't' value of Counselling Needs of Boys and Girls.

S.No	Category	N	Mean	S.D	't'Value
1.	Boys	59	24.305	6.829	0.231 <sup>NS</sup>
2.	Girls	61	24.607	7.506	

As per the mean scores obtained by boys and girls (24.305, 24.607), there is no significant difference between boys and girls in their counselling needs. The difference is not significant as the obtained 't' value (0.231) is less than 't' table value (2.58) at 0.01 level of significance.

#### 6.5 (Hypothesis-3): There would be no significant difference between the Counselling Needs of Bengali and English Medium Students.

Table-6: Mean, S.D., and 't' Value of Counselling Needs of Bengali and English Medium Students.

S.No.	Category	N	Mean	S.D	't'Value
1.	Bengali	61	23.557	7.046	1.409 <sup>NS</sup>
2.	English	59	25.39	7.202	

The mean scores obtained by Bengali and English Medium Students are found to be 23.557 and 25.39 respectively. The table results reveals that there is no significant difference between boys and girls in their counselling needs. The difference is not significant as the obtained 't' value (1.409) is less than 't' table value (2.58) at 0.01 level of significance. And both the samples are in need of moderate counselling.

#### 6.6 (Hypothesis-4): There would be no significant different between the Counselling Needs of Private and Government School Students.

Table-7: Mean, S.D. and 't' value of Counselling Needs of Private and Government School Students

S.No.	Category	N	Mean	S.D	't' Value
1.	Private	59	25.39	7.202	1.409
2.	Government	61	23.557	7.046	

The table results reveals that there is no significant difference between Private and Government School Students in their counselling needs Although there are minor differences between the mean scores of Private and Government School Students, which are found to be 25.39 and 23.557 respectively, the 't' values are found to be not significant.

## VII. FINDINGS

The present study revealed that nearly 72% of IX standard students are in need of moderate counselling. And the first area of counselling is found to be emotional status. The stated hypothesis is accepted on the basis of results obtained. All variables-Residence, Gender, Medium of Instruction and Type of school did not influence significantly in the Counselling Needs of students. Hence the hypothesis is accepted. But looking Mean scores it can be interpretation that Urban school students require more counselling when compared to Rural school students, and Private school students require more counselling when compared to Government school students in regard to their counseling Needs.

## VIII. SUGGESTIONS

Based on the findings of the study some suggestions are worth mentioning. Parents need to spend some time with their children and develop friendship and intimacy with them. They should project emotionally stable role models to the children which is required most. Teacher should understand student's nature, development and personality and must be a role model to them. All teachers need to project themselves as an emotionally matured person and encourage students to speak out their difficulties. They also need to develop empathy and intimacy with their students and take care of counselling needs of their students.

## IX. SUGGESTIONS FOR FURTHER RESEARCH

It is also suggested that similar study can be taken on primary school children, X standard students, and also on gifted and creative pupils, slow learners, exceptional children and delinquents. Present study has been conducted on specific areas of counseling needs. It will be worthwhile if counseling needs can also be conducted in correlation with personality traits and adjustment.

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# Value Preferences Of Teachers In Relation To Their Experience In Teaching

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## Abstract

*A teacher has deep impact on the personality of a child and has the ability to shape great leaders and visionaries through his teaching. It is through teaching that society preserves its culture; schools discharge their duties and attain their objectives. As teachers gain in experience these values shift and change according to his own experiences and become a strong part of his personality. The values of a teacher pervade his method of transmitting knowledge and influence the ideology of a child. Thus the main purpose of the research was to study the value preferences of prospective as well as in-service secondary school teachers in relation to their experience in teaching. The sample of the present study comprised of 360 prospective and in-service teachers from Chandigarh. A self designed value preference form of personal, social and teaching related values was used for the study. The analysis and interpretation of the data was done by applying Kruskal-Wallis one-way analysis of variance by ranks, a non parametric test to find out the differences in value preferences by assigning ranks of teachers at different levels of experience. The major findings of the study were: 1) The teachers at different levels of experience i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above differed significantly in their Personal Value preferences 2). The teachers at different levels of experience i.e. . 0 year, upto 5 years, 5+ to 10 years, 10 years and above differed significantly in their Social Value preferences 3) The teachers at different levels of experience i.e. . 0 year, upto 5 years, 5+ to 10 years, 10 years and above differed significantly in their Teaching related Value preferences.*

## I. INTRODUCTION

In the whole educational process, there are many factors which separately or collectively determine the quality of education, though it is difficult to state which of these factors contribute how much and in what manner to the outcome of education. The teacher who belongs to the human factor is the single most important factor responsible for the success, reforms and advancements of the educational programmes. He plays a pivotal role in the teaching learning process upon whose competency and efficiency, the quality of education depends. The teacher traditionally enjoys a position of great respect. This role as a friend, philosopher and guide has been eulogized since time immemorial. It is through teaching that society preserves its culture; schools discharge their duties and attain their objectives. Teaching is thus the act of assisting others to learning (Mangla, 1992).

The need to inculcate values through education in India is one of the most important tasks of education in the 21<sup>st</sup> century. Various factors cause this need, the major one being the cultural plurality of Indian Society. **The National Policy on Education (1986)** makes a pointed reference for promotion of cultural plurality through education thus: *In our culturally plural society, education should foster universal and eternal values, oriented towards the unity and integration of our people. Such a value education should help eliminate obscurantism, religious fanaticism, violence, superstition and fatalism (Peer, 2001).*

Values are rightly said to be the anchors of human life. They are part of inner life of human beings and are expressed through their behaviour. They occupy the central position in accounting for differences in their behaviour and life styles. Literally, Value means something that has worth, something precious, something dear, and something one is ready to suffer for, sacrifice for and if it is indeed valuable, die for.

Values are the highest quality of reality and the culminating point of significance for mankind. Deprive a man of his system of values; nothing would remain behind save an impulsive, instinctive and unpredictable creature. Again, once we churn out values from a society, nothing would be left behind, save an unbearable chaos and anarchy.

Man is a valuing creature. In the word of **Weiss (1950)**: Let it be granted that only man has a sense of value, that he alone judges things to be good or bad, ugly or beautiful, important or unimportant. It is man's capacity to develop and cultivate values that clearly marks him out from the rest of the living creatures, and enables him to improve perpetually the quality of his life on this planet – both in the material and non-material sense.

According to Norris, Barnett, Basom and Terkes (2002), humans look at other people's lives and they are affected by their value centered choices. In this manner, valuing becomes a developmental process which is affected by individual's world-view and the position he/she takes in it

Values involve general beliefs about desirable and undesirable ways of behaving in everyday life and about desirable and undesirable goals or end-states (Cory, Corey & Callahan, 2003).

Argandona (2003) points out that values are reflected in decisions; the repetition of values in decisions shows the existence of a virtue and the body of virtues shapes character, which gives consistency to subsequent decisions until a conduct is defined. In turn, each of these stages makes a mark on other people's values, in the same way that their decisions, virtues, characters and conducts influence our values. Thus, values' individual and social dimensions are interrelated; they influence each other mutually.

**Experience:** Etymologically; to become experienced means *to learn your way around*,” that is, to have ex-peri-ence (as in the term *perimeter*—the *measure* [metre] of *around* [peri-]).

Teaching Experience according to **Barnes (1987)** is conventionally regarded as an asset, presumably positively related to teaching success. In research it is seen as an easily accessible variable and tends to be included amongst background data in surveys and other empirical studies. Studies that have seriously considered the impact of experience have frequently found a negative relationship with various desirable outcomes, and there seems to be considerable evidence of a curvilinear relationship. It appears that teachers get *better* during the first few years of their careers but after this their effectiveness levels off and probably declines.

## II. OBJECTIVES

The study was conducted to attain preference patterns on personal, social and teaching related values of teachers with different levels of experience.

## III. METHODOLOGY

The investigator conducted an *exploratory research* study using the *ex-post facto design*. A self designed Value Preference Form identified from syllabus of teacher training course by the investigator herself, was the tool used in the study. The sample consisted of 360 prospective as well as in service teachers from 2 teachers training colleges and 22 secondary schools of Chandigarh. The total teachers were segregated in 4 groups according to their experience in teaching with 83 teachers in the 0 experience group, 72 in upto 5 years, 73 in 5+ to 10 and 132 teachers comprised the above 10 years experience group. For analysis, ranks were assigned to scores obtained and Kruskal-Wallis one-way analysis of variance by ranks, a non parametric test was used to derive the results.

## IV. ANALYSIS AND INTERPRETATION OF DATA

Kruskal-Wallis one-way analysis of variance by ranks of value preferences of teachers with regard to their experience in teaching was computed to test the following hypothesis:

- Ho.1:** There is no correspondence between preference patterns on Personal Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above).
- Ho.2:** There is no correspondence between preference patterns on Social Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above).
- Ho.3:** There is no correspondence between preference patterns on Teaching Related Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above).

### 4.1: PREFERENCES ON PERSONAL VALUES

To find out any difference between Personal Value preference patterns of teachers in relation to their experience in teaching, Kruskal-Wallis one-way analysis of variance by ranks was calculated. The results revealed that the value of  $H = 13.203$ , which was found significant at the .01 level of confidence. This suggests that the four groups of teachers had different value preferences beyond the contribution of chance. It may be inferred that preferences of teachers on personal values differ with regard to their level of experience, hence the null hypothesis Ho.1 of equality stating that **There is**

no correspondence between preference patterns on Personal Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above) stands rejected.

The top three ranked personal values and three personal values that have been assigned bottom ranks by teachers experience wise have been arranged in Table 1.

**Table 1: Master Ranks of Preferences on Personal Values of Teachers (Experience-wise)**

Master Ranks	Experience level in years			
	0	Upto 5	5+ to 10	Above 10
1	Honesty	Honesty	Sincerity	Honesty
2	Self-confidence	Self Confidence	Honesty	Self Confidence
3	Sincerity	Sincerity	Self Confidence	Sincerity
4	Responsibility	Responsibility	Responsibility	Responsibility
5	Love and affection	Perseverance	Love and affection	Love and affection
6	Perseverance	Love and affection	Perseverance	Perseverance
7	Tolerance	Tolerance	Tolerance	Tolerance
8	Aesthetic sense	Aesthetic sense	Aesthetic sense	Aesthetic sense

It may be observed from the table 1 that **Honesty, Self-confidence** and **Sincerity** was given high preference by the prospective teachers, upto 5 years experience teachers and teachers with above 10 years experience. Only the 5+ to 10 years experience group show a slight change in preference as Sincerity seems to be more important to them followed by Honesty and Self confidence. **Perseverance, Tolerance and Aesthetic sense** are the bottom three values are uniformly the 0, 5+ to 10 years and above 10 years experience group whereas upto 5 year experience teachers show a difference in opinion preferring Love and Affection, followed by Tolerance and Aesthetic sense for the bottom values.

#### 4.2: PREFERENCES ON SOCIAL VALUES

To find out any difference between Social Value preference patterns of teachers in relation to their experience in teaching, Kruskal-Wallis one-way analysis of variance by ranks was calculated. The results revealed that the value of  $H = 20.799$ , which was found significant at the .01 level of confidence. It suggests that the four groups of teachers had different value preferences beyond the contribution of chance. It may be inferred that preferences of teachers on Social values differ with regard to their level of experience hence the null hypothesis of equality **Ho.2** stating that:

**There is no correspondence between preference patterns on Social Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above) stands rejected.**

The top three ranked personal values and three personal values that have been assigned bottom ranks by teachers experience wise have been arranged in Table 2

**Table 2: Master Ranks of Preferences on Social values of Teachers (Experience-wise)**

Master Ranks	Experience level in years			
	0	Upto 5	5+ to 10	Above 10
1	Helpful	Purity in dealings	Purity in dealings	Helpful
2	Purity in dealings	Helpful	Helpful	Purity in dealings
3	Sense of Social responsibility	Regards for dignity of individual	Regards for dignity of individual	Cooperative decision making



4	Regards for dignity of individual	Cooperative decision making	Equality of status & opportunity	Selfless service unto others
5	Selfless service unto others	Equality of status & opportunity	Openness to reason	Regards for dignity of individual
6	Equality of status & opportunity	Openness to reason	Sense of Social responsibility	Equality of status & opportunity
7	Cooperative decision making	Selfless service unto others	Selfless service unto others	Openness to reason
8	Openness to reason	Sense of Social responsibility	Cooperative decision making	Sense of Social responsibility

It may be observed from the table 2 that the prospective teachers gave highest preference to Helpful, Purity in dealing and Sense of social responsibility. The group of teachers with experience of above 10 years has also favoured helpful and purity in Dealing as their topmost preferred value. Variation has occurred at the third top value which is Regards for dignity of individual for the upto 5 years experience level and 5+ to 10 years group and Co-operative decision making for the above 10 years group. It is noticeable that the preference orders of all the four groups showed highest preference to these five values with slight variation here and there. Helpful and Purity in dealings being the uniformly top preferences from 0 level and above 10 years whereas Purity in Dealings and Helpful have been preferred by the upto 5 years and 5+ to 10 years group.

Openness to reason and Sense of Social responsibility has been uniformly ascribed bottom ranks by secondary school teachers with slight variation here and there. The prospective teachers have ascribed bottom ranks to Equality of Status and Opportunity, Cooperative decision making and Openness to reason whereas the above 10 years experience level has assigned bottom preferences to Equality of Status and Opportunity, Openness to reason and Sense of Social responsibility, thus showing a clear shift in value preference when a teachers starts without experience to the time he/she has put in more than 10 years of service. However Selfless Service unto others is the uniform second to bottom preference of upto 5 years and 5+ to 10 years group and Sense of Social Responsibility and Co-operative Decision Making are the bottom preference values. The third from bottom preference of these two groups are Openness to Reason and Sense of Social Responsibility respectively.

#### 4.3 : PREFERENCES ON TEACHING RELATED VALUES

To find out any difference between Teaching related Value preference patterns of teachers in relation to their experience in teaching, Kruskal-Wallis one-way analysis of variance by ranks was calculated. The results revealed that the value of  $H = 14.122$ , which was found significant at the .01 level of confidence. It suggests that the four groups of teachers had different value preferences on Teaching Related Values beyond the contribution of chance. It may be inferred that preferences of teachers on teaching related values differ with regard to their level of experience hence the null hypothesis of equality  $H_0$  3 stating that: **There is no correspondence between preference patterns on Teaching related Values of teachers with no experience and those at various levels of experience (i.e. 0 year, upto 5 years, 5+ to 10 years, 10 years and above)** was rejected.

The Master Ranks (top to bottom preference) on these 8 Teaching related Values for each category of teachers reveal marked difference in value preferences of teachers at different levels of experience. The top three ranked personal values and three personal values that have been assigned bottom ranks by teachers experience wise have been arranged in Table 3

**Table 3: Master Ranks of Preferences on Teaching Related Values of Teachers (Experience Wise)**

Master Ranks	Experience Level in Years			
	0	Upto 5	5+ to 10	Above 10
1	Loyalty to duty	Loyalty to duty	Discipline	Loyalty to duty
2	Discipline	Discipline	Loyalty to duty	Discipline
3	Punctuality	Punctuality	Punctuality	Punctuality
4	Regularity	Regularity	Regularity	Regularity
5	Justice	Leadership	Justice	Justice
6	Leadership	Resourcefulness	Resourcefulness	Resourcefulness
7	Resourcefulness	Justice	Leadership	Leadership
8	Team spirit	Team spirit	Team spirit	Team spirit

It may be observed from the Table 3 that the preference order of all the four groups showed highest preference to **Loyalty to Duty, Discipline and Punctuality** these values with slight variation at the 5+ to 10 years group who have preferred Discipline as their top most value. It is noticeable. **Loyalty to duty** being the top most preferred value for all three experience level i.e. zero level, upto 5 years and above 10 yrs. There is a slight variation at the 5+ to 10 years level teachers who seem to prefer **Discipline** as the top value.

Secondary school teachers ascribed uniformly the bottom ranks to **Leadership, Resourcefulness and Team spirit**. With the prospective teachers ascribing the bottom ranks to **Leadership, Resourcefulness and Team spirit**. The above 10 yrs experience level has assigned bottom ranks to **Resourcefulness, Leadership and Team Spirit**.

**Loyalty to Duty, Discipline and Punctuality** among the top three preference and **Leadership, Resourcefulness and Team spirit** among the bottom three are the uniform characteristic of the entire group of teachers with a slight exception at experience level upto 5 years level.

## V. DISCUSSION AND CONCLUSION

The results gathered through analyses on personal, social and teaching related values of teachers confirm that there is a relationship between teacher experience and values. Therefore all the three hypotheses pertaining to values in relation to experience were rejected. The results are supported by the findings of the studies conducted by **Bohan (1986), Wiryohandoyo (1988), Kim (1990), Numrich (1991)** and **Fife (1998)**. But the above results were not consistent with the findings of the study conducted by **Taylor (1988)**. The argument in favour of the results of the present investigation could be drawn from the experience level of these teachers. For prospective teachers, the concept of values is purely theoretical. As they gain in experience in their working environment, their values undergo changes, restructuring and reshuffling thus they form their own new perceptions of values, as indicated in the results of the present investigation. Also, after fluctuation at the early stages of experience, the values seemed to settle down to a distinctive pattern when they reached at a higher level of experience. This clearly indicates that with the passage of time, as a teacher gains in experience there is a definite change in their value preferences.

The need is thus to provide environment and experiences to teachers at all levels to adopt the values conducive in creating a warm environment for the students and apply teaching strategies that can imbibe the requisite values among the youth. This will lead them to become responsible pillars of society, contributing not only to economic but moral development of the nation.

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# Perception Of Students In Using The Internet For Education

Paper ID	IJIFR/V4/ E1/ 038	Page No.	4938-4945	Subject Area	Commerce
Keywords	Student's Perception & Practices, Students' Interest And Involvement, Internet Usability, Thoothukudi District Of Tamil Nadu, One Way Anova , Two Way Anova, Kruskal Wallis Test, Correlation, Regression, Chi-Square Analysis, Independent Samples t Test				

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## Abstract

*The appearance of the Internet has changed the education significantly. Properly used information from the Internet represent added value to the education. Fortunately, the Internet and Information and Communication Technologies have greatly expanded into the field of education in last two decades. The present study covers the Thoothukudi district of Tamil Nadu. It deals with perceptions and practices of students in using the internet for education. By adopting random sampling method, respondents were selected from various parts of Thoothukudi. The sample size of this study is 110. This study focuses on general practices of students in using internet for their educational purpose. It also examines examine the students' interest and involvement in using internet for their education and other purposes. Therefore, this paper is an attempt to identify the perception of students in using the Internet for Education.*

## I. INTRODUCTION

The Internet is one of the greatest recent advancement in the world of information technology and has become a useful instrument that has fostered the process of making the world a global village. It is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers without regard for geographic limitation of space (Chen, S. Y. & Paul, R. J., 2003)<sup>1</sup>. The use of the Internet in the educational environment has enabled easy access to many resources, and information



sharing has, therefore, significantly increased. It provides several opportunities for the academia. Moreover, the prevalence of this sharing has brought additional benefits in that these resources can be used in any location and any time (Yasar Guneri Sahin , 2010)<sup>2</sup>.

The appearance of the Internet has changed the education significantly. Properly used information from the Internet represent added value to the education. Fortunately, the Internet and Information and Communication Technologies have greatly expanded into the field of education in last two decades (Mateja Ploj Virtič, 2012)<sup>3</sup>.

## **II. STATEMENT OF THE PROBLEM**

Asia leads the world in the number of people now on the Internet with 44.8% of all the world's online users. India has more than 137 million Internet users as per June 30, 2012 (Internet World Stats, 2012)<sup>4</sup>. The dramatic growth of Internet usage has changed the lives of millions of people around the globe during the last decade. For students and teachers, the Internet is becoming an increasingly important part of the educational process (Benson et al, 1994)<sup>5</sup>. The Internet's ability to provide students quick access to government documents, scholarly list serves, and databases located at geographically removed institutions makes it a valuable information source for students (Ryan, 1994)<sup>6</sup>. A wide range of information and facilities are available for the students in the Internet. Students use the Internet for reasons other than education also. The effect of Internet in education is, hence, relatively limited. Therefore, the researcher has made an attempt to identify the perception of students in using the Internet for Education.

## **III. OBJECTIVES OF THE STUDY**

The objectives of the present study

1. To analyse the general perceptions and practices of students in using internet for their educational purpose
2. To examine the students' interest and involvement in using internet for their education and other purposes
3. To identify the various purposes of using internet for education by students

## **IV. HYPOTHESES**

The following are the null hypotheses analysed in this study

1. The students have no interest and involvement in using internet for educational purposes.
2. In using internet, the students do not consume more time for their studies when compared to other purposes.

## **V. SCOPE OF THE STUDY**

The present study covers the Thoothukudi district of Tamil Nadu. It deals with perceptions and practices of students in using the internet for education. The time frame of this study is about 12 months (i.e.) from September 2013 to September 2014.

## VI. SIGNIFICANCE OF THE STUDY

The following are the significance of the study

1. This study helps to find out the general practices of students in using internet for their educational purpose.
2. The study provides a reliable and clear perspective for describing and evaluating the perceptions and practices of students.

## VII. DESIGN OF THE STUDY

### 7.1 SAMPLING PROCEDURE

By adopting random sampling method, respondents were selected from various parts of Thoothukudi. The sample size of this study is 110. The structured interview schedule was used to collect the relevant data. Questionnaires were distributed among the students in Thoothukudi District.

### 7.2 SOURCE OF DATA

The present study is based on both primary data and secondary data. Primary data were collected through interview schedules from the respondents. Secondary data consists of different literatures like websites, published articles, books, journals, etc.

### 7.3 PILOT STUDY

A pilot study was conducted among 25 respondents from the sampling frame and this was undertaken to verify the ease and utility of the questionnaire. Based on the feedback of the pilot study, modifications, additions and deletions were carried out. The final draft was prepared to collect the data.

### 7.4 FRAMEWORK OF ANALYSIS

For analyzing the data from the students, relevant statistical tools were used to fulfill the objectives of the study. Statistical package for the Social Science (SPSS) software package version 20 was used to analyze the data. The statistical analysis applied are One way anova , Two way anova, Kruskal wallis test, Correlation, Regression, Chi-square analysis, Independent samples t test.

### 7.5 LIMITATIONS OF THE STUDY

The present study is subject to the following limitations

1. This study is restricted to the Thoothukudi city only.
2. Due to time constraint and cost factor, only 110 respondents were surveyed.
3. The response of the interview schedule may be subject to the memory of the respondents.

## VIII. RESULTS AND DISCUSSION

Table 1: Two way ANOVA for Age, Educational Qualification and Usage of Internet for Education

Source	Sum of Squares	df	Mean Square	F value	Sig. value
Age	6.276	2	3.138	5.541	.005
Educational qualification	22.907	3	7.636	13.484	.000

Age * Educational qualification	2.876	3	.959	1.693	.173*
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\* Significant at 5% level

Table 1 shows the two way ANOVA that examines the effect of Age and Educational qualification on the usage of internet for education. There is no statistically significant interactive influence between the effect of age and educational qualification on the usage of internet for education as exposed by the value of  $F(3,101) = 1.693$  where p value is 0.173 ( $p > 0.05$ ). This indicates that the null hypothesis is accepted and alternative hypothesis is rejected. Therefore, age and educational qualification of the respondents does not influence the usage of internet for education. Hence, age and educational qualification of the respondents does not have an impact on the usage of internet for education.

**Table 2: Independent samples t test for Gender and Usage of Internet for Education**

Purpose	Gender	N	Mean	Std. Deviation	t value	Sig. value
Education	Male	51	4.29	1.026	0.764	0.446*
	Female	59	4.42	.747		

\* Significant at 5% level

Table 2 shows the independent samples t test that compares the usage of internet for education by male and female respondents. There is no statistically significant difference as determined by the value of  $t = 0.764$ , where the p value is 0.446 ( $p > 0.05$ ) and this indicates that the null hypothesis is accepted. Therefore, gender does not influence the purpose of using internet for education by the students. Hence, Gender is not a limiting factor for the usage of internet for education.

**Table 3: Correlations on Purpose of internet usage for education**

Purpose		Assignment	Study Material	Project	Online Knowledge	Distance Education
Assignment	Pearson Correlation	1	.447**	.573**	.109	.176
	Sig. Value		.000	.000	.256	.066
	Respondents	110	110	110	110	110
Study Material	Pearson Correlation	.447**	1	.442**	.178	.082
	Sig. Value	.000		.000	.062	.392
	Respondents	110	110	110	110	110
Project	Pearson Correlation	.573**	.442**	1	.146	.119
	Sig. Value	.000	.000		.127	.217
	Respondents	110	110	110	110	110
Online Knowledge	Pearson Correlation	.109	.178	.146	1	.317**
	Sig. Value	.256	.062	.127		.001

	Respondents	110	110	110	110	110
Distance Education	Pearson Correlation	.176	.082	.119	.317**	1
	Sig. Value	.066	.392	.217	.001	
	Respondents	110	110	110	110	110

\*\* . Correlation Is Significant At The 0.01 Level (2-Tailed).

Source: Primary data

Table 3 shows the relationship between Assignment, Study material, Project, Online knowledge and Distance Education using Pearson product moment correlation co-efficient. In this analysis, there exists a relationship among all the variables. The result shows that there exists a strong positive relationship between the variables Assignment and Project ( $r=0.573$ ,  $p<0.01$ ).

The factors having inter correlation with positive values are as follows

1. Assignment positively correlates with Project (0.573)
2. Assignment positively correlates with Study material (0.447)
3. Study material positively correlates with Project (0.442)
4. Online knowledge positively correlates with Distance Education (0.317)
5. Project positively correlates with Online knowledge (0.146)

**Table 4: Multiple Regression on Information on the internet for educational purposes and Reliability**

Model	Unstandardized Coefficients		Standardized Coefficients	t value	Sig. value
	B	Std. Error	Beta		
(Constant)	1.142	.606		1.885	.062*
Sufficient	.119	.114	.113	1.046	.298
Accurate	.224	.137	.168	1.638	.104
Updated	.296	.120	.254	2.465	.015
Appropriate	.064	.106	.057	.602	.548
Dependent Variable: Reliable					
Independent Variables : Sufficient, Accurate, Updated, Appropriate					
Multiple R : 0.437					
R square : 0.191					
Adjusted R square : 0.160					
F statistics (4, 105) : 6.195					

\* Significant at 5% level

Table 4 reveals the multiple regressions used to access the ability of four control measures (Sufficient, Accurate, Updated and Appropriate) that predicts the level of reliability of information on the internet for educational purposes (Reliable).

- $R^2$  value (0.191) indicates the amount of variability explained by independent variables of Sufficient, Accurate, Updated and Appropriate accounting for 19% of



variance in the dependant variable of Reliable i.e., the remaining 81% is by some other unknown variable and the problem is not taken into account.

- ▶ Adjusted  $R^2$  indicates whether there is any insignificant factor. It should always be less than or equal to  $R^2$ . Hence  $R^2$  (0.191) and adjusted  $R^2$  (0.160) are very close to each other, this indicates a good model.
- ▶  $p = 0.062$  (above 0.05) shows that there is no statistically significant difference between variables and this indicates that all the independent variables Sufficient, Accurate, Updated and Appropriate have no significance on the Reliability of information on the internet for educational purposes.

**Table 5: One way ANOVA for Educational Qualification and Accessing information by students**

Sources of variation	Sum of Squares	df	Mean Square	F value	Sig. value
Between Groups	2.900	3	.967	1.453	0.232*
Within Groups	70.518	106	.665		
Total	73.418	109			

\* Significant at 5% level

Table 5 shows the one way ANOVA that explores the influence of educational qualification on accessing Information through internet. There is no statistically significant difference between groups as disclosed by the value of  $F(3,106) = 1.453$  where the  $p$  value is 0.232 ( $p > 0.05$ ) and this indicates that the null hypothesis is accepted. Therefore, educational qualification of the respondents does not influence the accessing of Information through internet. Educational qualification does not have an effect on the accessing of Information through internet by the students.

**Table 6: Crosstab for Educational Qualification and Period of Internet Usage**

Educational Qualification		Period of internet usage				Total
		Less than a year	1-2 years	3-4 years	More than 4 years	
Secondary	Respondents	2	3	1	0	6
	Educational Qualification	33.3%	50.0%	16.7%	0.0%	100.0%
	Period	15.4%	10.7%	2.8%	0.0%	5.5%
Higher Secondary	Respondents	3	4	10	3	20
	Educational Qualification	15.0%	20.0%	50.0%	15.0%	100.0%
	Period	23.1%	14.3%	27.8%	9.1%	18.2%
Under Graduate	Respondents	5	14	15	19	53
	Educational Qualification	9.4%	26.4%	28.3%	35.8%	100.0%

	Period	38.5%	50.0%	41.7%	57.6%	48.2%
Post Graduate	Respondents	3	7	10	11	31
	Educational Qualification	9.7%	22.6%	32.3%	35.5%	100.0%
	Period	23.1%	25.0%	27.8%	33.3%	28.2%
Total	Respondents	13	28	36	33	110
	Educational Qualification	11.8%	25.5%	32.7%	30.0%	100.0%
	Period	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Primary data

Table 6 shows the relationship between the educational qualification of respondents and the period of internet usage. Out of 110 respondents, 48.2% of the respondents are under graduates. In them, 35.8% use internet for more than 4 years, 28.3% for 3-4 years, 26.4% for 1-2 years and 9.4% for less than a year.

Further, 28.2% of the respondents are post graduates. In them, 35.5% use internet for more than 4 years, 32.3% for 3-4 years. Next, 18.2% of the respondents are higher secondary school students. In them, 50% use internet for 3- 4 years, 20% for 1-2 years and 15% for 1-2 years and less than a year. Lastly, out of the 110 respondents, the secondary school students (5.5%) occupy the least position. In it, 50% use internet for 1-2 years and 33.3% for less than a year.

**Table 7: Chi-square test between Educational Qualification and Period of Internet Usage**

Factor	Critical Value	df	Sig. value
Pearson Chi-Square	11.501	9	0.243*

\* Significant at 5% level

Table 7 shows the association between educational qualification of the respondents and the period of internet usage. As per the acceptance of null hypothesis  $p=0.243$  ( $p>0.05$ ), educational qualification is not associated with the period of internet usage. Therefore, Educational qualification is not associated with the period of internet usage by the students. Hence, Educational qualification of the respondents does not have an impact on the period of internet usage.

**Table 8: Kruskal Wallis Test for Educational Qualification and Important in education**

Attitude	Chi-Square	df	Sig. value
Important in education	5.508	3	0.138*

\* Significant at 5% level

Table 8 shows the Kruskal Wallis test that indicates the effect of educational qualification on the importance of internet in education. As per the acceptance of null hypothesis  $p=0.138$  (above 0.05), educational qualification does not influence the importance of internet in education. Therefore, educational qualification of the respondents does not have an impact on the importance of internet in education.

**Table 9: Kruskal-Wallis Test for Age and Internet Helps students in academic performance**

Attitude	Chi-Square	df	Sig. value
Helps students in academic performance	5.521	2	0.063*

\* Significant at 5% level

Table 9 shows the Kruskal Wallis test which indicates the effect of age on help for students in academic performance. As per the acceptance of null hypothesis  $p=0.063$  (above 0.05), age does not have an influence on the student's academic performance. Therefore, student's academic performance is not affected by the age of the respondents.

## IX. CONCLUSION

The Internet has emerged as a powerful educational tool. In a finger touch, distance away from the user and it would not be inappropriate to say that the Internet has become the biggest global digital information library which provides the fastest access to the right kind of information in nano-seconds of time to end-user at any time and at any place in the world. By learning to use the academic-related resources from the Internet, students will be able to complement the information found with the resources from their school learning. This also will enable them to be self-directed, self-paced, and lifelong learners.

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# Carnavalesque in 'Thiruvathira' Festival of Kerala: A Socio Cultural Study

Paper ID	IJIFR/V4/ E1/ 041	Page No.	4946-4952	Research Area	Cultural Study
Keywords	Carnavalesque, Norms, Ideology Patriarchy, Rituals and Taboos				

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## Abstract

*Every society has an expectation about how its members should and should not behave. Such expectations later develop into norms and taboos that are explained and expanded through rituals and practices. Apart from being observed strictly, these taboos and norms are sometimes subjected to violation which deserves severe punishment. There also exists 'allowed times' including ceremonies, rituals and festivals during which the normal consequences of taboo breaking are suspended. Russian literary theorist and philosopher Bhakthin coined a term Carnavalesque to mean such occasions in which the political, legal and ideological authority was inverted – albeit temporarily – during the anarchic and liberating period of the carnival. 'Thiruvathira' is a festival of women belonging to the Nair and Namboothiri families of Kerala, commemorating the death and resurrection of Kamadeva, the cupid of Indian Mythology. The paper seeks to reach a socio cultural context that provides the tolerance of subversion of norms and to provide insight for further research in this area. The paper attempts to discuss the reliability of the rituals of 'Thiruvathira' as an emancipating strategy of the silenced and marginalized women and also analyses the politics of such occasions and unravels diverse lifestyle and culture of the Nair and Namboothiri(Bhrahmin) women that necessitates the taboo breaking in this festival.*

## I. INTRODUCTION

For the Russian literary theorist and philosopher Bhakthin, Carnavalesque is both the description of a historical phenomenon and the name he gives to a certain literary tendency.



Historically speaking, Bakhtin was interested in great carnivals of Medieval Europe. He saw them as occasions in which the political, legal and ideological authority of both the church and state were inverted — albeit temporarily — during the anarchic and liberating period of the carnival. Mikhail Bakhtin's points out four categories of the carnivalistic sense of the world:

1. *Familiar and free interaction between people*: carnival often brought the unlikely of people together and encouraged the interaction and free expression of themselves in unity.
2. *Eccentric behaviour*: unacceptable behaviour is welcomed and accepted in carnival, and one's natural behaviour can be revealed without the consequences.
3. *Carnivalistic misalliances*: familiar and free format of carnival allows everything that may normally be separated to reunite — Heaven and Hell, the young and the old, etc.
4. *Sacrilegious*: Bakhtin believed that carnival allowed for Sacrilegious events to occur without the need for punishment. Bakhtin believed that these kinds of categories are creative theatrical expressions of manifested life experiences in the form of sensual ritualistic performances.

Through the carnival and carnivalesque, a *world upside-down* is created, ideas and truths are endlessly tested and contested, and all demand equal dialogic status. The “jolly relativity” of all things is proclaimed by alternative voices within the carnivalized text and context that de-privileged the authoritative voice of the hegemony through their mingling of “high culture” with the profane. For Bakhtin it is within literary forms like the novel that one finds the site of resistance to authority and the place where cultural, and potentially political, change can take place.

## II. EXPECTATION FOR BEHAVIOR

Every society has expectations about how its members should and should not behave. A norm is a guideline or an expectation for behavior. Each society makes up its own rules for behavior and decides when those rules have been violated and what to do about it. Norms change constantly. They differ widely among societies, and they can even differ from group to group within the same society. Appropriate and inappropriate behavior often changes dramatically from one generation to the next. Norms can and do shift over time.

Sociologists have separated norms into four categories: folkways, mores, laws, and taboos.

A folkway is a norm for everyday behavior that people follow for the sake of convenience or tradition. People practice folkways simply because they have done things that way for a long time. Violating a folkway does not usually have serious consequences. A more is a norm based on morality, or definitions of right and wrong. Since mores have moral significance, people feel strongly about them, and violating a more usually results in disapproval. A law is a norm that is written down and enforced by an official agency. Violating a law, results in a specific punishment. A taboo is a norm that society holds so

strongly that violating it results in extreme disgust. The violator is often considered unfit to live in that society.

Where there are rules, there are rule breakers. Sociologists call the violation of a norm deviance. The word *deviant* has taken on the negative connotation of someone who behaves in disgusting or immoral ways, but to sociologists, a deviant is anyone who doesn't follow a norm, in either a good way *or* a bad way.

Apart from being observed strictly, these taboos and norms are sometimes subjected to violation which deserves severe punishment. There also exists 'allowed times' including ceremonies, rituals and festivals during which the normal consequences of taboo breaking are suspended. 'Thiruvathira' is one such festival of women belonging to the Nair and Namboothiri families of Kerala, commemorating the death and resurrection of Kamadeva, the cupid of Indian Mythology and also unravels diverse lifestyle and culture of the nair and namboothiri women that necessitates the sanctioned taboo breaking during this festival.

Thiruvathira is a festival of woman, celebrated originally in the Brahmin houses. The origin of the festival is shrouded in obscurity. Historians differ in their opinion about the place from where the Brahmins migrated to Kerala and when they had migrated. K. P Padmanabha Menon is of the opinion that the Brahmins had migrated to Kerala during the third century B C .According to William Logan the Brahmin settlement in Kerala took place only during the eight century AD. Some other historians are of the view that Brahmins were brought to Kerala by Mayuravarman, the Kadamba King of the fourth Century. The popular 'Parasurama legend' has been given a historical recognition in the quasi historical work *Keralolpathi* printed and published by Herman Gundert in 1843. According to the Parasurama Myth, the land Kerala was regained from the sea and brought Brahmins from outside and settled them in sixty four villages in Kerala and Tulu. The available inscriptional and literary evidences suggest that the festival has been celebrated on this day for more than 2000 years.

### **III. THE NAMBOOTHIRIS**

Namboodiri women are called, 'Antharjanam', which literally means, 'People who live inside'. After the age of 6 or 7, Namboodiri women are confined indoors, and not seen even by their own fathers or brothers. Those days, it was common for only the oldest son in a family to marry within their caste. The other sons would do a 'Sambhandam' with Nair women, and the Nair women and their children would continue to live in their house and not in the Namboodiri illam. It was common for the eldest sons to practice polygamy for various reasons. There were instances where a man on his death-bed would marry a teenager. Illams traditionally would have unmarried girls, married women and widows of the Namboodiris.

The Namboothiris observed the custom of "Ghosha" or veil till recently. Though elsewhere the Brahmin women neither looked at nor spoke to outside males other than those of the family, among Namboothiri community, this restriction extended also to the brothers of their husbands. The seclusion of women was strictly enforced in Namboothiri

community. In comparison, women of the Nair caste, next in hierarchy, enjoyed great levels of independence. Descent was through the female line, children stayed at maternal home and an unusual practice of allowing multiple sexual partners. Although the oldest brother known as 'karanavar' was the head of the household, and managed the family estate, women enjoyed the right to property and therefore respect prestige and power.

The caste system in India differed from that found any other part in India. Generally the Indian caste system modeled on the four fold division of society into Brahmins, Kshathriyas, Vaisyas and Sudras. In Kerala the Namboothiri Brahmins formed the priestly class and only rarely recognized anyone else as being other than sudras or untouchable. Even though the Nairs enjoyed the enviable position in the society, no Brahmin was allowed to touch even the nairs who stand next to them in social hierarchy. The taboo of untouchability is somewhat broken when the Nair and Nambuoothiri women join together when they go for the ritualistic bath early in the morning known as 'thudichukuli' during the thiruvathira festival.

#### **IV. THE THIRUVATHIRA FESTIVAL & TOLERANCE OF NAMBOODIRI WOMEN**

The Thiruvathira festival falls on the asterism 'Thiruvathira' in the Malayalam month of Dhanu (December-January). A week before the festival practically opens, at about 4 in the morning every young female member of the Nair/Namboothiri families, gets up and goes to take a ritualistic bath in the pond. A fairly large number of these young ladies collect themselves in the pond for the purpose. Then they plunge into the water and begin to take part in the singing. One of them then leads off with a peculiar rhythmic song chiefly pertaining to cupid. The singing is simultaneously accompanied by a curious sound produced with the hand on the water. The palm of the left hand is closed and kept immediately underneath the surface of the water. Then the palm of the other is forcibly brought in the slanting direction producing a deep loud noise. This process is continuously prolonged together with the singing. After one stanza, along with the sound, the leader stops a while, for the others to follow. This continues until the conclusion of the song. Then all of them make a long pause and then begin another. The process goes on until the peep of the dawn, when they rub themselves dry and come home to dress themselves in the neatest and grandest possible attire. Those people, who are bound to keep quiet and obedient all through their life, break the silence and willingly mingle with the nair women, forgetting the caste discrimination and untouchability by having bath together during 'thudichukul'.

During the Thiruvathira celebration, women proceed to the enjoyment of another prominent item known as Oonjal (swing), which was again a sanctioned break of prevailing customs and manners. The social structure of Namboothiri community allowed women little opportunities for involvement. They were expected to focus on practical domestic pursuits and activities that encouraged the betterment of their families especially their husbands. Women who spoke out against the patriarchal system of gender roles ran the risk of being exiled or excommunicated. In the male dominated society sports have always been reserved

as an activity for men and indulging in individual pleasure was almost like a taboo for women. They actively participate in a game accompanied by a song, before they go for gathering flowers.

They break yet another taboo while going to the garden in the midnight to gather flowers by singing and making loud noise like “aarpo heeyo heeyo” The mobility of women was highly restricted. Even they were not permitted to go out in the day light and their travel was limited to the nearest temple or houses of the close relatives. During such journeys, they hide their face with the umbrella known as ‘marakkuda’(Umbrella).The binary of day and night is nullified on this auspicious day of thiruvathira, when the women keep themselves awake all through the night by singing and dancing. The night long music and dance is interspersed with a ceremony called Patirappoo choodal(wearing flowers at midnight). It is a ritualistic wearing of flowers at midnight singing the glory of various gods who gave them prosperity, power, long life et.c. An image of Shiva is placed in the centre of the courtyard in front of lighted brass lamp where flowers, plantains, and jaggery are offered to the deity. The women perform the dance around the image and each participant adorns a few flowers from the offering. The flowers they wear are not the usual flowers meant for pooja.They subvert the existing orders and rules by choosing ‘dasapushpas’(10 flowers) like karuka, mukkutti, muyalcheviyan, thiruthali,cheruvoola,kayyonni,nilappana,pooвамkurunnila Krishna kranthii and valliyuzhinja which are otherwise least noticed.

The fasting is another major feature of this festival which essentially involves abstaining from rice-based food. Being an agrarian society, The Keralites used to have rice as the major food and it was even considered to be the symbol of their wealth and prestige. For the people who are comparatively poor and belonging to the lower caste, the rice based food was unaffordable. They gathered and ate the varieties of tubers and common fruits of the season for their survival. The upper class women who observe thiruvathira ritual thus breaks the borders of inequalities by including cooked broken wheat Ettangadi and Thiruvathira puzhukku, a delightful mix of tuber vegetables: colocasia (chembu),yam (chena), Chinese potato (koorka), sweet potato (madhurakizhangu) with long beans(vanpayar) and raw plantain fruit (ethakaya), cooked with a thick paste of freshly ground coconut. The dessert is koova payasam, a sweet dish made of arrow root powder, jaggery and coconut milk. Other items of their food include plantain fruits, tender coconuts, etc.

The first Thiruvathira coming after the marriage of a girl is known as Puthen Thiruvathira or Poothiruvathira and it is celebrated on a grand scale. Women chew betel and redden their lips. Among Namboodiris, Ambalavasis (temple-servants) and high class Nairs, there is a convention that each woman should chew 108 betels on that day.It is believed according to the Hindu mythology that Kamadeva resides in betel leaves. Chewing of betel leaves on this auspicious occasion also symbolizes the sanctioned tolerance of the society towards the sexual desires of women which was otherwise forbidden. In a society where women are not even allowed to look at their own fathers and brothers face, Women dances with the sinuous movements around a ‘nilavilakku’ (auspicious lamp) embody lasya or the



amorous charm and grace of the feminine. Unlike the nair women, who enjoyed the unrestricted freedom of decorating their body and articulating their physical needs, the Namboothiri women never taught to give eyes and ears to their body. During the Thiruvathira festival, they decorate their hair and put anjukuri on their forehead.

Namboothiri women never enjoyed the right to choose their husband and they were trained to be the submissive meek and obedient wife, never knowing the joy of freedom and self reliance. Antharjanams had very unsatisfactory lives and always went around fully escorted and shrouded. The entire Namboothiri life was patterned to ensure the virginity and fidelity of the antharjanams. The myth of the death and resurrection of Kamadeva which form the base of the Thiruvathira ritual marks a notable role shift in the status of woman from a protected dependent to a protecting and life giving companion. On the day of Thiruvathira, a wife is no longer a timid submissive weak sex, but a fair sex capable of prolonging her husband's life and maintaining his prosperity and wealth. The theme of Thiruvathira songs are preoccupied by the celebration of womanhood and the free will of women. The songs narrating stories of Usha, the daughter of Bana who married the man of her choice, Parvathi who managed to win the heart of Lord Shiva, and Damayanthi who burnt the demon into ashes are all represented the feminine ideals that the Namboothiri women of that time never even dare to dream.

## **V. CONCLUSION**

What necessitates the tolerance of these taboos breaking is a thought provoking and interesting question which is to be theorized in the socio cultural contrast of the Namboothiri and Nair communities of Kerala. However the entire rituals related to the Thiruvathira festival wear the mask of empowering and celebrating the womanhood. The taboo breaking is sanctioned only for a short period and before and after it, the status of women remained unchanged. The more a community is suppressed, the greater will be the resistance they are capable of. The scheme of this festival like any other rituals seems to be conspired by the powerful patriarchy to lessen the resistance that they fearfully anticipated from the oppressed women folk of Namboothiri caste.

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## A Bibliometric Study On Indian Journal Of Clinical Psychology During The Year 2008 – 2015

<b>Paper ID</b>	<b>IJIFR/V4/ E1/ 043</b>	<b>Page No.</b>	<b>4953-4964</b>	<b>Subject Area</b>	<b>Library &amp; Information Sci.</b>
<b>Keywords</b>	<b>Bibliometric, Authorship Pattern, Degree of Collaboration, Exponential Growth Rate</b>				

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### Abstract

*This Study aims to explore the publication of papers in Indian Journal of Clinical Psychology. The Bibliometric Analysis has been conducted with 121 contributions published in the journal for a period of Eight years (2008 – 2015). It was observed from the study that the Authorship Pattern, Degree of Collaboration, Exponential Growth Rate, Citation Analysis etc. This study provides the insights and development of journal towards excellence. Hence, the present study encouraged the authors will help for produce more publications.*

### I. INTRODUCTION

Bibliometric is a set of methods used to study or measure texts and information. Citation Analysis and content analysis are commonly used in Bibliometric methods are most often used in the field of Library and Information Science. Bibliometric uses mathematical and statistical methods to analyze and measure the output of scientific publications. Modern Bibliometric has been largely inspired by Derek de Solla Price and the seminal work was carried out by him in the middle of the last century. The terms Bibliometric and Scientometric were almost simultaneously introduced by Pritchard and Nalimov and Mulchenko in 1969. While Pritchard explained the term Bibliometric as “The application of mathematical and statistical methods to books and other media of communication”. Bibliometric is a major sub-discipline of quantitative research. This is a tool used by the library and information science professionals for studying the communication processes, information flows, and others for better understanding and effective management and dissemination of information. Bibliometric techniques are being used for a variety of

purposes like determination of various scientific indicators, evaluation of scientific output, selection of Journals for Libraries and even forecasting the potential of a particular field.

## II. LAW'S IN BIBLIOMETRIC STUDY

- i) **Lotka's Law of Scientific Productivity:** Lotka's law describes the frequency of publication by authors in a given field.
- ii) **Brad Ford's Law of Scatter:** Bradford's law serves as a general guideline to librarians in determining the number of core journals in any given field.
- iii) **Zipf's Law of Word Occurrence:** Zipf's law is often used to predict the frequency of words within a text. The law states that in a relatively lengthy text.

## III. REVIEW OF LITERATURE

- **Sankar P, And Kavitha E.S, (2016):** This paper study aims at analyzing the research output performance of finance on management science subjects. The analysis cover mainly the number of articles, authorship pattern, average number of references per articles length of articles, paper per author and authors per paper, number of cited documents, citation per year, citation per paper and author and identified the year-wise distribution of H index, G index, HG, HI and AWCRC. The degree of collaboration in JEMF ranged from 0.30 to 0.86 which collaborative works are remarkably observed.
- **Thanuskodi (2010):** Discussed the research output performance of social scientists on social science subjects. The analysis covers mainly the number of articles, authorship pattern, average number of references per articles, year wise distribution of cited journals etc.
- **Har Singh (2013):** This article analysed the various bibliometric components of the articles published in the Chinese Librarianship: an International Electronic Journal between 2009 and 2012.
- **Naganna, N (2013):** This study aims to present a bibliometric analysis of the Electronic Library journal. A bibliometric study of 654 articles was published during the period 1999 to 2011 in the Electronic Library journal.
- **Kuri Ramesh, Palled Savita (2016):** Bibliometrics is the discipline where quantitative methods were employed to probe scientific communication process by measuring and analyzing various aspects of written documents. It helps to monitor growth of literature and patterns of research.
- **Yuh-Shan Ho (2012):** This study aimed to identify and to analyze characteristics of top-cited articles published in the Web of Science chemical engineering subject category from 1899 to 2011. Articles that have been cited more than 100 times were assessed regarding publication outputs, and distribution of outputs in journals. Five bibliometric indicators were used to evaluate source countries, institution and authors. A new indicator, Y-index, was created to assess quantity and quality of contribution to articles.



#### IV. OBJECTIVES OF THE STUDY

- To find out the year wise distribution of article, distribution of year wise citation.
- To study the Authorship Pattern.
- To Determine the Degree of Collaboration.
- To identify the geographical distribution of contributions, determine the year wise length of articles.
- To study the Authorship Productivity, Exponential Growth Rate.
- To identify the contribution of institutions.
- To find out the Time Series Analysis of Single Authors articles.

#### V. RESEARCH METHODOLOGY AND LIMITATION OF THE STUDY

The methodology followed for this study consisted of studying in the nature and the Authorship Pattern on Indian Journal of Clinical Psychology.

- **Data Collection:** To collect the required data was about in all the study of Library and Information Science to study of the Indian Journal of Clinical Psychology. 8 Years data have been taken into a Spreadsheet. The Collected data have been analyzed with the Manual, Microsoft Excel Sheet and Presented in the form of Tables.
- **Scope Of The Study:** The main purpose of the study is to find out the current citation trends of the Authorship Pattern on Indian Journal of Clinical Psychology.
- **Need For The Study:** Journals play an important role in scholarly communication. Periodicals appear as the focal point for transmitting Knowledge. The journals are pointers of Literature growth and progress in any field of knowledge. The Bibliometric Analysis has many applications in the field of Library and Information Science in finding research trends, Core Journals, Citation Analysis etc., these research studies will be supportive for library professionals in collection development.

#### VI. THE BIBLIOMETRIC ANALYSIS OF INDIAN JOURNAL OF CLINICAL PSYCHOLOGY FROM 2008 – 2015.

Indian Journal of Clinical Psychology (HCP) is a half yearly publication of the Indian Association of Clinical Psychology (IACP). The Journal publishes original articles in all areas of clinical psychology and other allied social and behavioral sciences. It includes Research articles, Reviews articles, Case reports, Book reviews, News about Conferences, Letters to the Editor and Brief Communication etc. The purpose is to encourage scientific work in the area of mental health. It also incorporates research work on clinical and social issues concerning child, adolescent and adult mental health.

The Journal was started in 1974 and is being regularly published in March and September each year. The Journal has a large circulation amongst various professionals like clinical psychologist, psychiatrists, psychiatric social workers and those associated with mental health and social welfare agencies. The journal is abstracted in Psychological abstracts (USA) and Indian Psychological Abstracts. This study aims to find out the Bibliometric analysis of Indian Journal of Clinical Psychology from 2008 – 2015.

**Table -1 Year wise and Volume wise Distribution of Articles**

Year	Volume	Issue No	No. of Articles	Articles Year Wise	Percentage
2008	35	-	-	8	6.61
		2 (Sep)	8		
2009	36	1 (Mar)	6	12	9.92
		2 ( Sep)	6		
2010	37	1 ( Mar)	8	18	14.88
		2 (Sep)	10		
2011	38	1 (Mar)	9	17	14.04
		2 (Sep)	8		
2012	39	1 (Mar)	7	15	12.40
		2 (Sep)	8		
2013	40	1 (Mar)	8	18	14.88
		2 (Sep)	10		
2014	41	1 (Mar)	9	18	14.88
		2 (Sep)	9		
2015	42	1 (Mar)	6	15	12.40
		2 (Sep)	9		
Total			121	121	100

The Table – 1 shows that the selected period taken for this analysis of Indian Journal of Clinical Psychology from 2008 to 2015. The above table -1 has revealed that the year wise publications. The year 2010, 2013 and 2014 were having the highest number of publications of 2010, 2013 and 2014 have same publications 18 (14.88%) among the eight years of study. Where as year of 2009 have lowest publication.

**Table-2 Distribution of Year Wise Citations**

Citation Range	Years								No. of Total Articles	Percentage
	2008	2009	2010	2011	2012	2013	2014	2015		
1 – 10	-	-	-	1	2	1	1	1	6	4.96
11 – 20	3	3	6	2	5	7	5	4	35	28.93
21 – 30	2	5	2	2	5	3	7	4	30	24.79
31 – 40	2	3	3	3	2	5	3	4	25	20.66
41 - 50	1	1	3	5	-	1	1	2	14	11.57
Above 51	-	-	4	4	1	1	1	-	11	09.09
Total	8	12	18	13	15	18	18	15	121	100

Table – 2 shows that the citation range contribution of publications. It is found most of the contributions are 11 to 20 citation range, i.e., 35 (28.93%) and lowest contributions are in the 1 – 10 (4.96%).

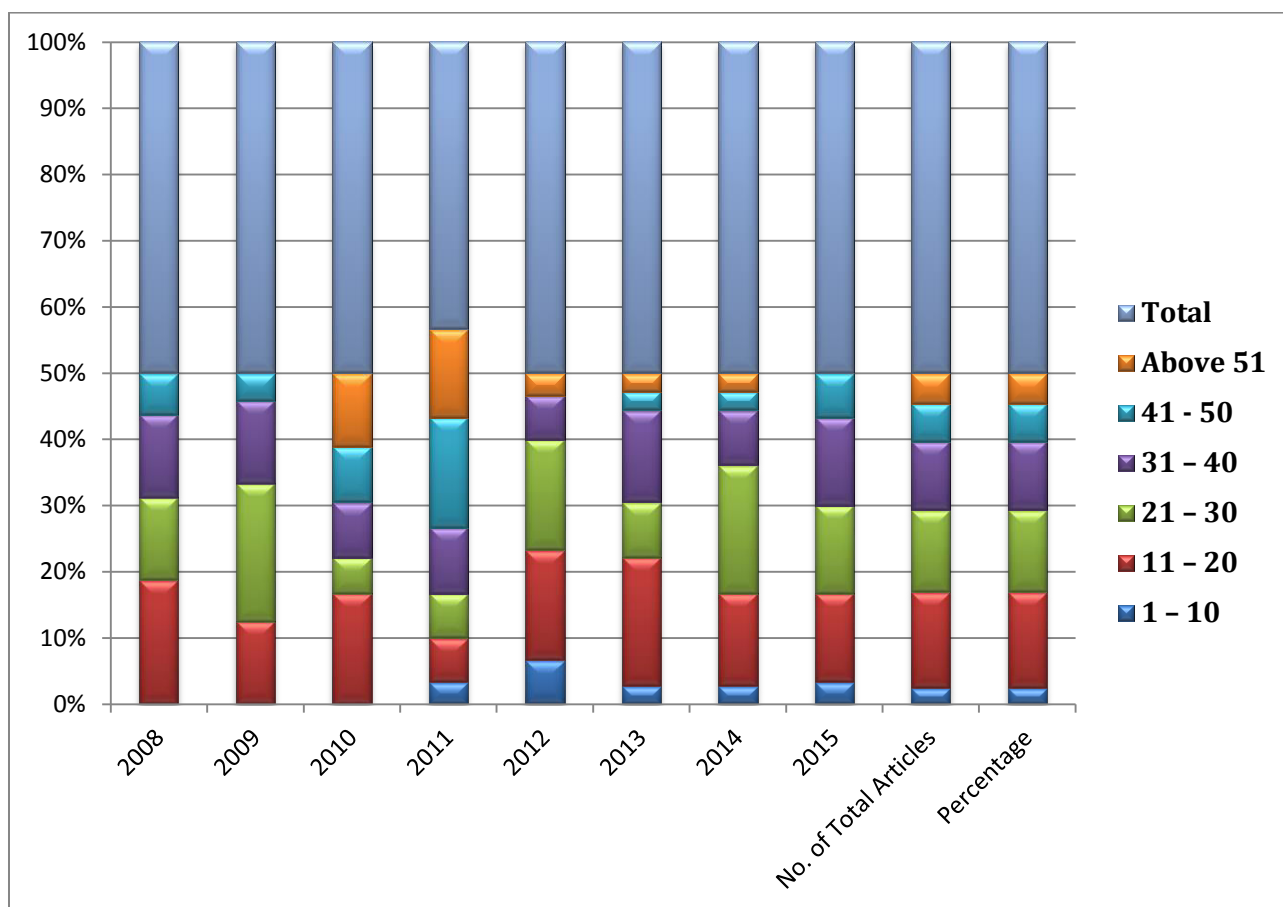


Figure – 1 : Distribution of Year Wise Citations

Table – 3: Authorship Pattern

Authorship Pattern	Years								No. of Articles	Percentage
	2008	2009	2010	2011	2012	2013	2014	2015		
Single Author	2	1	5	3	1	1	0	0	13	10.74
Double Authors	2	7	7	9	7	11	7	10	60	49.59
Three Authors	1	3	1	3	4	4	11	2	29	23.97
Four Authors	2	0	4	1	1	0	0	3	11	09.09
More Than Four Authors	1	1	1	1	2	2	0	0	08	06.61
<b>Total</b>	8	14	18	17	15	18	18	15	121	100

The Table – 3 shows that the details about the Authorship pattern of articles published during the period of study. The extent of research contributions by the authors are explained under authorship pattern table – 3 indicates that out of 121 articles. Maximum number of articles 60(49.59%) were published by two authors. Followed by the three authors had contributed 29 (23.97%), followed by the four authors had contributed 11 (9.9%) and the minimum contributed is More than four authors 8 (6.61%).

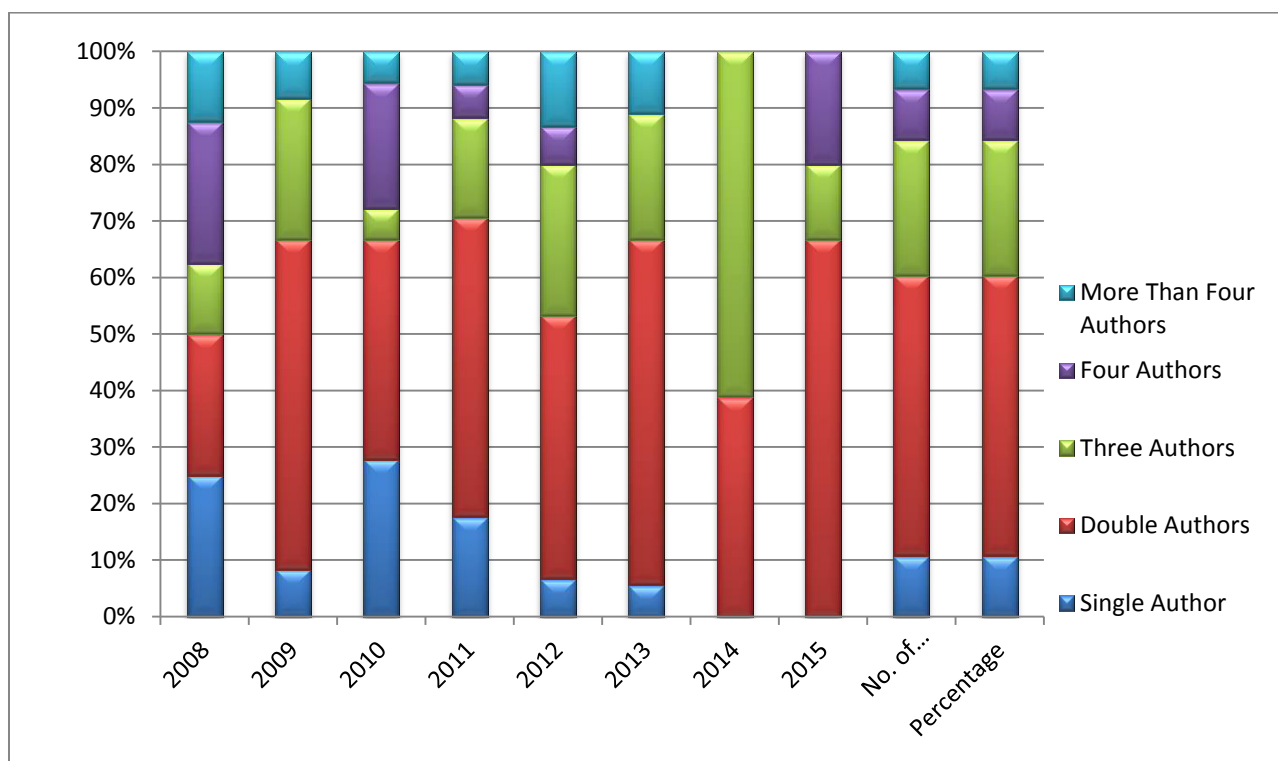


Figure – 2: Authorship Pattern

Table – 4: Degree of Collaboration

Year	Single Author	Multiple Authors	Total	Degree of Collaboration
2008	2	6	8	0.75
2009	1	11	12	0.92
2010	5	13	18	0.72
2011	3	14	17	0.82
2012	1	14	15	0.93
2013	1	17	18	0.94
2014	-	18	18	0.01
2015	-	15	15	0.01
Total	13	108	121	5.01

The Table - 4 shows that the details about the degree of collaboration which indicate tend in single and multiple authorship during the year 2008 to 2015, as shown in table – 4. The degree of collaboration ranges from 0.01 to 0.94 and the average degree of collaboration is 0.89. The degree of collaboration is calculated by using the following formula ( K. Subramanyan, 1982).

The formula is where,

C = Degree of collaboration

Nm = Number of Collaboration

Ns = Number of Single Authors

$$C = \frac{Nm}{Nm+Ns}$$

$$C = 1 + \frac{nx}{1!} + \frac{108}{108+13}$$



$$C = \frac{108}{121}$$

$$C = 0.89$$

As a Result, the degree of collaboration in the Indian Journal of Clinical Psychology is 0.89 which shows the contributions of multiple authors.

Table – 5: Year Wise Length of Articles

No. of Pages	Years								No. of Articles	Percentage
	2008	2009	2010	2011	2012	2013	2014	2015		
1 – 5	2	1	2	1	4	6	4	5	25	20.66
6 – 10	5	8	9	8	11	11	14	10	76	62.81
11 – 15	1	3	7	8	0	1	0	0	20	16.53
<b>Total</b>	8	12	18	17	15	18	18	15	121	100

The Table – 5 shows that the page wise distribution of publications. It is found that the most of contribution are 6 – 10 pages, i.e, 76 (62.81%) and lowest contribution are 11 – 15 pages i.e, 20 (16.53%).

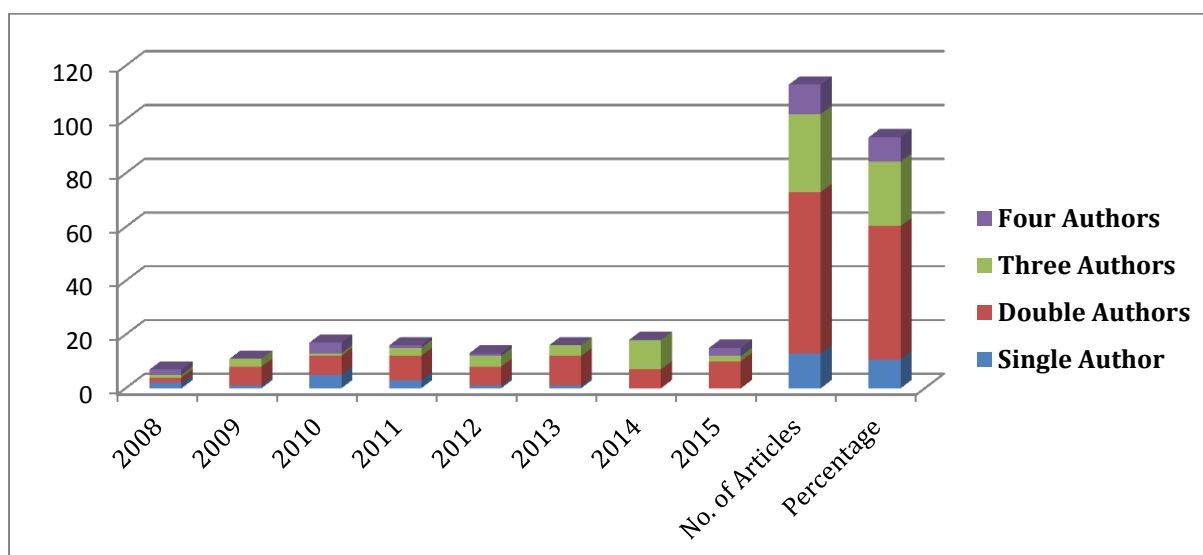


Table – 6: Authors Productivity

S.No	Year	Total No. of Papers	Total No. of Authors (%)	AAPP	Productivity Per Authors
1	2008	8	23 (7.49)	2.875	0.348
2	2009	12	29 (9.45)	2.416	0.413
3	2010	18	44 (14.33)	2.444	0.409
4	2011	17	40 (13.03)	2.352	0.425
5	2012	15	41 (13.35)	2.733	0.366
6	2013	18	45 (14.66)	2.5	0.4
7	2014	18	47 (15.31)	2.611	0.383
8	2015	15	38 (12.38)	2.533	0.395
<b>Total</b>		121	307 (100)	20.464	3.139

Table – 6 shows the data related to Author's Productivity. The total average number of authors per paper is 20.464 and the average productivity per author is 3.139. The highest number of Author's productivity 45 (14.66%) was in 2013. The minimum number of author's productivity 23 (7.49%) was in 2008.

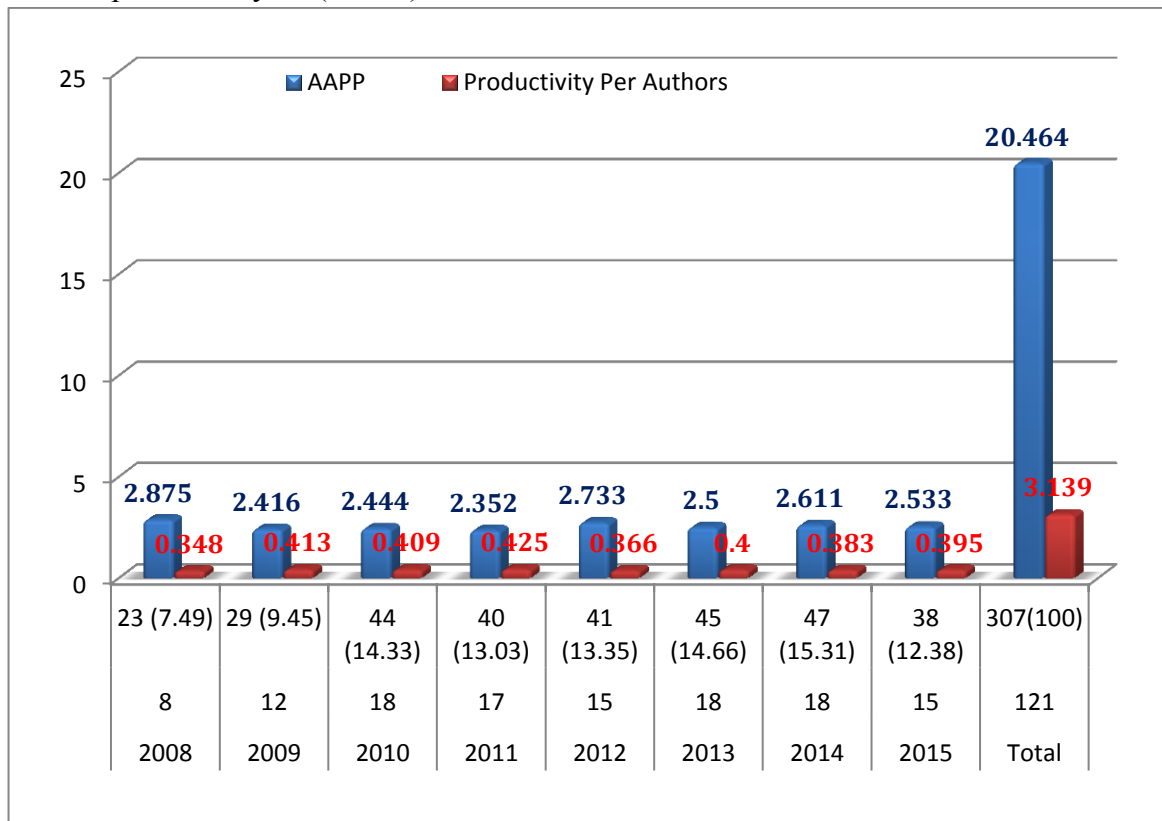


Figure – 4: Authors Productivity

Table – 7: Exponential Growth Rate

S.No	Year	Publications	Exponential Growth Rate
1	2008	8	-
2	2009	12	1.5
3	2010	18	1.5
4	2011	17	0.94
5	2012	15	0.88
6	2013	18	1.2
7	2014	18	1.0
8	2015	15	0.83
Total		121	7.85

The Table – 7 shows that the Exponential Growth Rate of publications in Indian Journal of Clinical Psychology during the period 2008 to 2015 (8 Years). The highest growth rate 1.5 was found during 2009 & 2010 with 18 publications. It is also found that the Exponential Growth Rate was found to be 7.85.

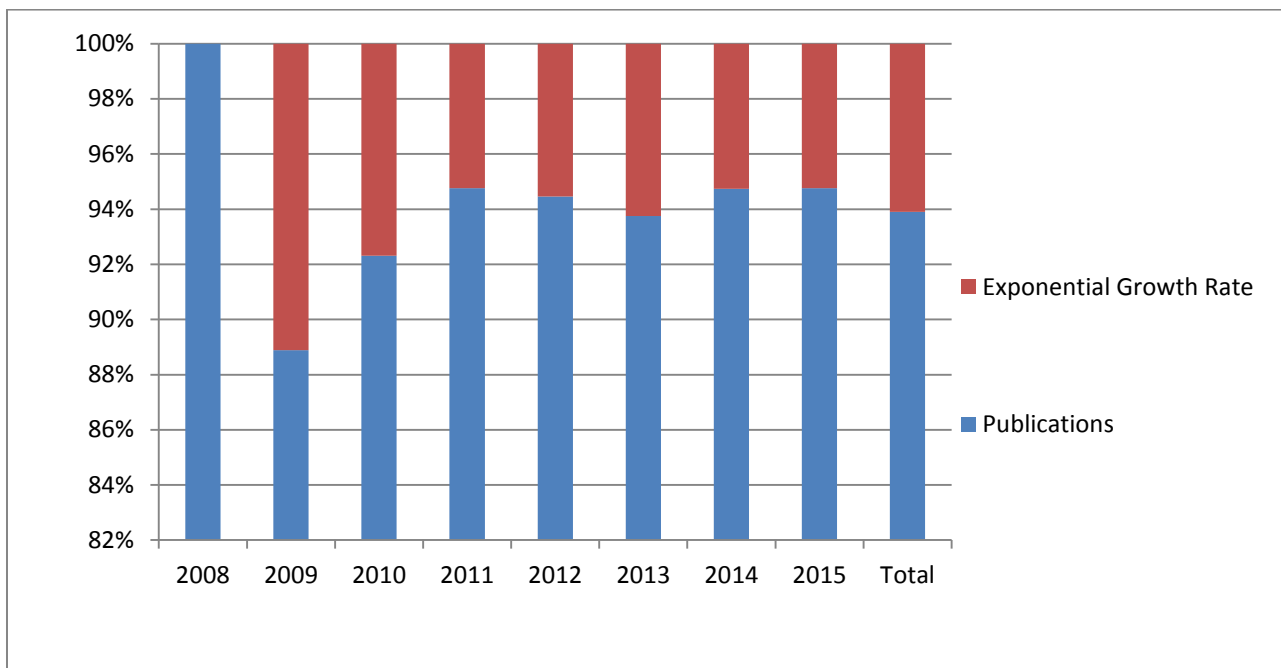


Figure 5: Exponential Growth Rate

Table – 8: Institutions wise Distribution of Authors

Institutions	Authors	Percentage
University	91	29.64
Hospital / Laboratories	202	65.80
Medical Collage	14	04.56
Total	307	100

Table – 8 shows the type of institutions with which the authors of the articles were affiliated Out of 307 contributions, the highest number of i.e, 202 articles (65.80%) were from authors affiliated with hospitals and laboratories. Whereas the lowest number of authors i.e, 14 articles (4.56%) has been contributed by college.

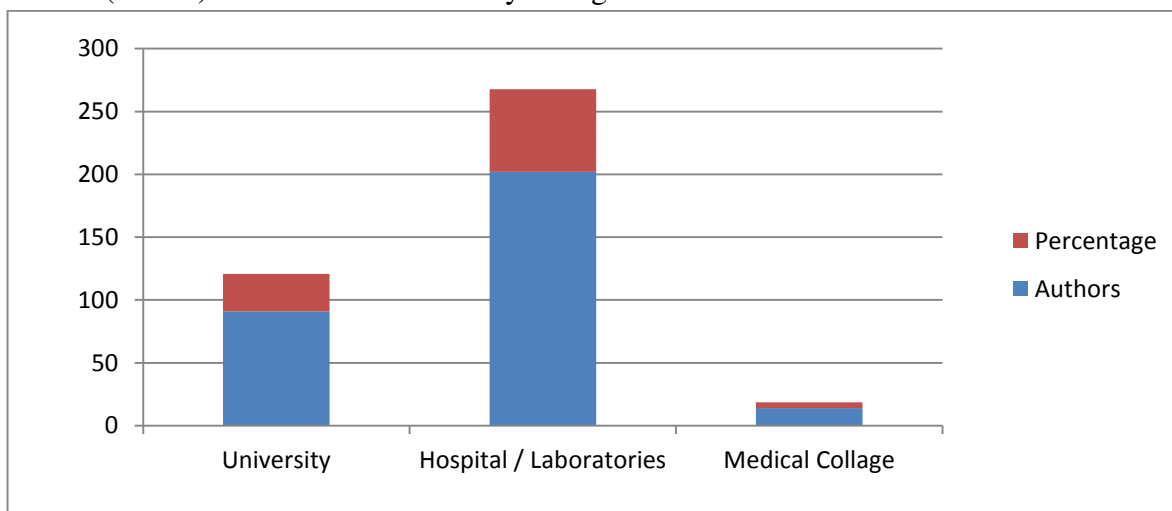


Table – 9 : Geographical Wise Distributions of Contributions

Rank	Name of State / Country	No. of Authors	Percentage
1	New Delhi	45	14.61
2	Jharkhand	28	09.09
3	Agra	12	03.90
4	Calcutta	15	04.87
5	Bangalore	33	10.71
6	West Bengal	16	05.19
7	Tamil Nadu	20	06.49
8	Karnataka	19	06.17
9	Kerala	18	05.84
10	Ahmadabad	12	03.90
11	Mumbai	20	06.79
12	Lucknow	16	05.19
13	Allahabad	15	04.87
14	Shimla	05	01.64
15	Varanasi	15	04.87
16	Foreign	10	03.25
17	Others	08	02.60
<b>Total</b>		307	100

The Table – 9 Reveals shows that the Indian Journal of Clinical Psychology, research of top during the period from 2008 to 2015. The top place of New Delhi was published 45 (14.61%) contribution of publication in first rank and followed by the second rank of Bangalore contribution 33 (10.71%) records. Among the different states analysis shows Jharkhand, Tamil Nadu, Mumbai are in the middle, and the bottom of Shimla 5 (01.64%), and Foreign 10 (03.35%).

**Table – 9: Time Series Analysis of Single Authored Articles**

Year	No. of Publication	X	X <sup>2</sup>	XY
2008	2	-3	9	-6
2009	1	-2	4	-2
2010	5	-1	1	-5
2011	3	0	0	0
2012	1	1	1	1
2013	1	2	4	2
2014	-	3	9	-
2015	-	4	16	-
<b>Total</b>	13	-	44	40

The Table – 9 shows that the straight line equation is applied to arrive at estimates for future growth under the time series analysis. Straight line equation  $Y = C = a + bX$ ; Since  $\sum x = 0$ ,  $a = \sum Y / N = 108 / 10 = 11$ ,  $b = \sum XY / \sum X^2 = 40/45 = 0.89$ . Estimated literature in 2020 is when  $X = 2020 - 2011 = 9$ .

$$= 9 + 0.89 * 9$$

$$= 9 + 8.01$$



= 17.01

Estimated literature in 2025 is when  $X_{2025} - 2011 = 14$ .

=  $14 + 0.89 * 14$

=  $14 + 12.46$

= 26.46

**Table – 10: Forms of Document Type**

Forms Document Types	No. of Papers	Percentage
Editorial	16	22.55
Presidential Address	05	07.04
Valedictory Address	01	01.40
Kang Oration	02	02.82
Award Paper	02	02.82
Case Reports	14	19.72
Book Review	10	14.09
Brief Communication	02	02.82
Review Article	04	05.63
Psycho Oration	01	01.40
Obituary	02	02.82
Therapy	09	12.69
Case Study	01	01.40
Over View	01	01.40
Indian Association of Clinical Psychologist	01	01.40
Total	71	100

The Table - 10 shows that the many type of documents published additional papers for reference to users in Indian Journal of clinical psychology.

## VII. FINDINGS AND CONCLUSION

- This study finds that the years of 2008 to 2015 were having the highest number of publications of 2010, 2013 and 2014 (18). The most of the contributors are 11-20 citation range, i.e 35 (28.93%).
- The extent of research contributions by the authors is explained under authorship pattern that out of 121 articles. Majority number of articles 60 (49.59%) were published by two authors.
- It is found that the  $C =$  degree of collaboration 121 (0.89%)  $N_m =$  Number of multi-authored works 108,  $N_s =$  Number of single-authored works 13.
- The year wise length of article of publications. It is found that most of the contributions are 6-10 pages, 76 (62.81%).
- The total average number of authors per paper is 20.464 and the average productivity per author is 3.139.
- The study finds the institution wise contributions are the Hospital/Laboratories 202 (65.80%).

- The time series analysis of estimated literature in 2020 is when  $X=2020 - 2008 = 12$ .  
Estimated literature in 2025 is when  $X= 2025 - 2011 = 14$ .

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# A Study On The Performance Of Lead Bank Scheme Of Banks In Tamilnadu With Special Reference To Thanjavur District

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<b>Keywords</b>	<b>Lead Bank, Libralization, Micro Finance, Priority Sectors And Allied Industries</b>				

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## Abstract

*Now a day's banking sector plays a very important role in life, banks motivate human to saving money for their future. It facilitates number services to society and improves the standard of living, economic growth of the country. The banking industry in India made considerable progress especially during the last 3 decades, to emerge as one of the accredited agencies of rural development. Banks provide funds to Agricultural, Housing, Social infrastructure, Industries, Education, Power generation and allied purpose. In India banks are regulated by RBI. State level banker committee and Lead banks in state level and district level. The articles explain role of lead banks and its function in state level and each district in Tamilnadu particularly Thanjavur. The study aims at analyzing deposits, advances credit deposit ratio, annual credit plan, priority sector advances provide under the lead bank scheme in Thanjavur district.*

## I. INTRODUCTION

There was no such word as 'banking' before 1640, although the practice of safe-keeping and savings flourished in the temple of Babylon as early as 2000 B.C. Chanakya in his Arthashastra written in about 300 B.C. mentioned about the existence of powerful guilds of merchant bankers who received deposits, and advanced loans and issued hundis (letters of transfer). The Jain scriptures mention the names of two bankers who built the famous

Dilware Temples of Mount Abu during 1197 and 1247 A.D. The first bank called the 'Bank of Venice' was established in Venice, Italy in 1157 to finance the monarch in his wars. The bankers of Lombardy were famous in England. But modern banking began with the English goldsmiths only after 1640. The first bank in India was the 'Bank of Hindustan' started in 1770 by Alexander & Co., an English agency house in Calcutta which failed in 1782 with the closure of the agency house. But the first bank in the modern sense was established in the Bengal Presidency as the Bank of Bengal in 1806.

History apart, it was the 'merchant banker' who first evolved the system of banking by trading in commodities than money. Their trading activities required the remittances of money from one place to another. For this, they issued 'hundis' to remit funds. In India, such merchant bankers were known as 'Seths'.

The next stage in the growth of banking was the goldsmith. The business of goldsmith was such that he had to take special precautions against theft of gold and jewellery. If he seemed to be an honest person, merchants in the neighborhood started leaving their bullion, money and ornaments in his care. As this practice spread, the goldsmith started charging something for taking care of the money and bullion. As evidence for receiving valuables, he issues a receipt. Since gold and silver coins had no marks of the owner, the goldsmith started lending them. As the goldsmith was prepared to give the holder of the receipt and equal amount of money on demand, the goldsmith receipt became like cheques as a medium of exchange and a means of payment.

### **1.1 Banking In India**

In the modern sense, originated in the last decades of the 18th century. Among the first banks were the Bank of Hindustan, which was established in 1770 and liquidated in 1829-32; and the General Bank of India, established in 1786 but failed in 1791.

The largest bank, and the oldest still in existence, is the State Bank of India (S.B.I). It originated as the Bank of Calcutta in June 1806. In 1809, it was renamed as the Bank of Bengal. This was one of the three banks funded by a presidency government, the other two were the Bank of Bombay and the Bank. The three banks were merged in 1921 to form the Imperial Bank of India, which upon India's independence, became the State Bank of India in 1955. For many years the presidency banks had acted as quasi-central banks, as did their successors, until the Reserve Bank of India was established in 1935, under the Reserve Bank of India Act, 1934.

In 1960, the State Banks of India was given control of eight state-associated banks under the State Bank of India (Subsidiary Banks) Act, 1959. These are now called its associate banks. In 1969 the Indian government nationalized 14 major private banks. In 1980, 6 more private banks were nationalized. These nationalized banks are the majority of lenders in the Indian economy. They dominate the banking sector because of their large size and widespread networks.

The Indian banking sector is broadly classified into scheduled banks and non-scheduled banks. The scheduled banks are those included under the 2nd Schedule of the



Reserve Bank of India Act, 1934. The scheduled banks are further classified into: nationalized banks; State Bank of India and its associates; Regional Rural Banks (RRBs); foreign banks; and other Indian private sector banks. The term commercial banks refer to both scheduled and non-scheduled commercial banks regulated under the Banking Regulation Act, 1949.

Generally banking in India is fairly mature in terms of supply, product range and reach-even though reach in rural India and to the poor still remains a challenge. The government has developed initiatives to address this through the State Bank of India expanding its branch network and through the National Bank for Agriculture and Rural Development with facilities like microfinance.

### **1.2 Post-Independence**

The partition of India in 1947 adversely impacted the economies of Punjab and West Bengal, paralyzing banking activities for months. India's independence marked the end of a regime of the Laissez-faire for the Indian banking. The India initiated measures to play an active role in the economic life of the nation, and the Industrial Policy Resolution adopted by the government in 1948 envisaged a mixed economy. This resulted in greater involvement of the state in different segments of the economy including banking and finance. The major steps to regulate banking included:

- The Reserve Bank of India, India's central banking authority, was established in April 1935, but was nationalized on 1 January 1949 under the terms of the Reserve Bank of India (Transfer to Public Ownership) Act, 1948 (RBI, 2005b). In 1949, the Banking Regulation Act was enacted, which empowered the Reserve Bank of India (RBI) "...to regulate, control, and inspect the banks in India."
- The Banking Regulation Act also provided that no new bank or branch of an existing bank could be opened without a license from the RBI, and no two banks could have common directors.

### **1.3 Nationalization In The 1960s**

Despite the provisions, control and regulations of the Reserve Bank of India, banks in India except the State Bank of India (SBI), remain owned and operated by private persons. By the 1960s, the Indian banking industry had become an important tool to facilitate the development of the Indian economy. At the same time, it had emerged as a large employer, and a debate had ensued about the nationalization of the banking industry. Indira Gandhi, the then Prime Minister of India, expressed the intention of the Government of India in the annual conference of the All India Congress Meeting in a paper entitled "Stray thoughts on Bank Nationalization.." The meeting received the paper with enthusiasm.

Thereafter, her move was swift and sudden. The Government of India issued an ordinance ('Banking Companies (Acquisition and Transfer of Undertakings) Ordinance, 1969') and nationalized the 14 largest commercial banks with effect from the midnight of 19 July 1969. These banks contained 85 percent of bank deposits in the country. Jayaprakash

Narayan, a national leader of India, described the step as a "masterstroke of political sagacity." Within two weeks of the issue of the ordinance, the Parliament passed the Banking Companies (Acquisition and Transfer of Undertaking) Bill, and it received the presidential approval on 9 August 1969.

A second dose of nationalization of 6 more commercial banks followed in 1980. The stated reason for the nationalization was to give the government more control of credit delivery. With the second dose of nationalization, the Government of India controlled around 91% of the banking business of India. Later on, in the year 1993, the government merged New Bank of India with Punjab National Bank. It was the only merger between nationalized banks and resulted in the reduction of the number of nationalized banks from 20 to 19. Until the 1990s, the nationalized banks grew at a pace of around 4%, closer to the average growth rate of the Indian economy.

#### **1.4 Liberalization In The 1990s**

In the early 1990s, the then government embarked on a policy of liberalization, licensing a small number of private banks. These came to be known as New Generation tech-savvy banks, and included Global Trust Bank (the first of such new generation banks to be set up), which later amalgamated with Oriental Bank of Commerce, UTI Bank (since renamed Axis Bank), ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, revitalized the banking sector in India, which has seen rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks. The next stage for the Indian banking has been set up, with proposed relaxation of norms for foreign direct investment. All foreign investors in banks may be given voting rights that could exceed the present cap of 10% at present. It has gone up to 74% with some restrictions.

The new policy shook the Banking sector in India completely. Bankers, till this time, were used to the 4–6–4 method (borrow at 4%; lend at 6%; go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for traditional banks. All this led to the retail boom in India. People demanded more from their banks and received more. The Indian banking sector is broadly classified into scheduled banks and non-scheduled banks. All banks included in the Second Schedule to the Reserve Bank of India Act, 1934 are Scheduled Banks. These banks comprise Scheduled Commercial Banks and Scheduled Co-operative Banks. Scheduled Co-operative Banks consist of Scheduled State Co-operative Banks and Scheduled Urban Cooperative Banks. Scheduled Commercial Banks in India are categorized into five different groups according to their ownership and/or nature of operation:

- State Bank of India and its Associates
- Nationalized Banks
- Private Sector Banks
- Foreign Banks
- Regional Rural Banks.

### 1.5 Automated Teller Machine Growth

- The total number of automated teller machines (ATMs) installed in India by various banks as of end June 2012 was 99,218. The new private sector banks in India have the most ATMs, followed by off-site ATMs belonging to SBI and its subsidiaries and then by nationalized banks and foreign banks, while on-site is highest for the nationalized banks of India.

Branches And ATM <sub>s</sub> Of Scheduled Commercial Banks As Of End December 2014				
Bank Type	Number Of Branches	On-Site ATM <sub>s</sub>	Off-Site ATM <sub>s</sub>	Total ATM <sub>s</sub>
Nationalized Banks	33,627	38,606	22,265	60,871
State Bank Of India	13,661	28,926	22,827	51,753
Old Private Sector Banks	4,511	4,761	4,624	9,385
New Private Sector Banks	1,685	12,546	26,839	39,385
Foreign Banks	242	295	854	1,149
<b>TOTAL</b>	<b>53,726</b>	<b>85,134</b>	<b>77,409</b>	<b>1,62,543</b>

### 1.6 Lead Bank Orgin and Growth

A lead bank is a bank that oversees the arrangement of loan syndication. The lead bank is paid an additional fee for this service, which involves recruiting the members and negotiating the financing terms. In the Eurobond market, the lead bank acts in an agent capacity for an underwriting syndicate.

Under the Lead Bank Scheme, each district had been assigned to different banks to act as a consortium leader to co-ordinate the efforts o banks in the district particularly in maters like branch expansions and credit planning. The Lead Band scheme did nit envisage a monopoly of banking business to Lead Bank in the district. The Lead Bank was to act as a consortium leader for co-efforts of all credit institutions in each of the allotted districts for expansion of branch banking facilities and for meeting the credit needs of rural economy. In the meanwhile, nationalization of 14 major commercials banks in July 1964 and another 6 banks 1980 paved the way for bringing about dramatic changes in their operations. Reserve Bank in order to involve commercial banks in rural development. It has two-fold objectives, namely, mobilizing deposits on the one hand and providing increased credit to rural development on the other. It is very much restricted to a particular area or revenue district. The Lead Bank is required to indentify and study local problems and formulate a suitable credit plan for the area.

The banks were directed to serve the farmer and to promote agricultural production and rural development. The credit planning assumed greater importance after nationalization. It refers to allocation of bank credit to different sectors of the economy. Credit planning was made sector-wise, while under micro aspect, credit allocation was made in respect of each bank and branch of the bank.

## II. REVIEW OF LITERATURE:

- **K.S.Vinodhan-1998**-in his research study on entrepreneurial development with special reference to establishment and financing of small scale industry and implementation of Priminister's Rozgar Yojana, problems, industrial sickness and remedial measures on small scale industries were dealt.
- **Saklayen Sk.Md.Golam-2000** In his research study ha analyzed the impact of bank credit on national economy since independence.
- **Frizell Julie Dolan-2002** In his research study analyzed that the membership in banks during 1990s significantly increased by Federal Home Loan system.
- **Mahalingam-2005** In his study stated that the bank credit is key drivers of all development programs.
- **B.L.Chandak-2006** In his article SSI CREDIT concluded that, the world over, it is the small and medium enterprises which play a major role in innovation, revitalization of economy and creation on new jobs.

## III. ORGANIZATION OF RESEARCH

### 3.1 Statement Of The Problem

Before nationalization of commercial banks and implementation of Lead Bank Scheme priority sector advances were ignored by them commercial banks and very few branches in the rural area. The rural development was not considered by the commercial banks.They gave loans only to urban areas as well as large scale industries. Loans to Agricultural and allied activities, Small scale Industries and other priority sectors advances were neglected by the commercial bank.

### 3.2 Objectives Of The Study

The specific objectives of the study are:

- 1.To study and analyze the trend and growth of deposits and advances of banks in Thanjavur District.
- 2.To compare fund allotted to various priority and non-priority sectors.
- 3.To analyse the total number of branches in rural, semi-urban, urban and metro region.
- 4.To analyze total amount of deposits collected, number of account holder and total fund distributed as credit.

### 3.3 Scope Of The Study

It is case study of performance evaluation of Lead Bank Schemes of banks in Thanjavur District It has an operational area over the entire district of Thanjaver District. The study aims at analyzing deposits, advances credit deposit ratio, annual credit plan, priority sector advances provide under the lead bank scheme in Thanjavur district.

### 3.4 Sources Of Data Collection

Data was collected from state level bankers committee of Tamilnadu, statistical report of RBI, Annual credit plan 2016-2017 and Thanjavur district credit plan issued by Indian overseas Bank.Thanjavur



#### IV. DATA ANALYSIS AND INTERPRETATION

Designing of a suitable methodology and selection of effective analytical tools are important for meaningful analysis of any research problem. In the present study to analyze the performance of Lead Bank Schemes in Thanjavur District. Data were collected from various journals, bulletin, magazines, books, website of state level bankers committee of Tamilnadu and RBI statistical data. Percentage analysis tool was used for analyzing the collected data's.

**Table-4.1: Details Of Banks In Tamil Nadu State**

Name Of The Bank	No.Of Banks	Percentage
SBI & Its Associates	7	11.29
Nationalised Banks	20	32.26
Foreign Banks	14	22.58
Regional Rural Bank	02	3.23
Other Scheduled Com. Banks	19	30.65
Non Scheduled Com.Banks	-	00
<b>TOTAL</b>	<b>62</b>	<b>100</b>

Table No.1 Explains different banks in Tamilnadu and its operation in whole state. It indicates SBI & Associates banks are 7, more number of banks only nationalized and Non-Scheduled commercial banks its percentage is 32 and 30.65 respectively.

**Table-4.2: Analysis Of Thanjavur District Annual Credit Plan Sector Wise 2016-2017-Priority Sectors (Rs. In Thousands)**

Name Of The Sector	Amount	Percentage
Agriculture And Allied Industries	433158	90.3%
Medium Scale Enterprises	33552	6.9%
Renewable Energy	8000	1.7%
Social Infrastructure	5000	1.04%
Total Amount	479710	

Table No.2 Indicates amount of credit allotted to various priority sectors in Thanjavur District according to annual credit plan-2016-2017. Total amount of allotment to Agricultural and Allied industries Rs.433.158 crores. It is compared with other sectors too high, the main reason for more population in Thanjavur District engaged in agricultural and other related job.

**Table- 4.3: Analysis Of Thanjavur District Annual Credit Plan Sector Wise 2016-2017-Non-Priority Sectors (Rs. In Thousands)**

Name Of The Sector	Amount	Percentage
Education	16645	14.6%
Housing	34573	30.3%
Export Credit	17000	14.9%
Others	45951	40.2%
Total Amount	114169	

Table.No.3. Explain in detail of fund allotted to non-priority sectors in Thanjavur District in 2016-2017 Annual credit plan .Compare with priority sector allotment, the amount equally distribute to education, housing, export credit and other sectors.Thanjavur is famous for made of coir product and art plate's it is exported to various countries, so additional fund allotment is more advisable improve export revenue.

**Table 4.4: Number Of Branches In Thanjavur District (Area Wise)**

Branches In Area	No. Of Branches	Percentage
Rural	120	39.2%
Semi Urban	90	29.4%
Urban	96	31.4%
Metro	0	0%
Total	306	

Table.No.4. Reveals number of branches in area wise at Thanjavur District. Basically the district locates in Cauvery delta region people are engaged in agriculture, so most of the peoples are farmers and living at villages. There are around 120 branches of banks and services at rural area; it is high compare with other area.

**Table 4.5: Details Of Provide Advances To Various Sectors In Thanjavur District -2015-2016 (Amount In Crores)**

Name Of The Sector	Amount	Percentage
Agricultural	5057.98	66.6%
Medium Scale Enterprises	1524.04	20.06%
Education	351.81	4.6%
Housing	663.85	8.73%
Total	7597.68	

Table.No.5. Gives clear picture of advance amount paid to beneficiaries in Thanjavur District in the accounting year 2015-2016. Table shows more weight age is given to agricultural and allied industries than the other sectors total amount of Rs.5057.98.

**Table 4.6: Details Of Provide Advances To Various Sectors In Thanjavur District -2015-2016 (Amount In Crores)**

Name Of The Sector	Amount	Percentage
DRI	3.90	0.7%
SC/ST	190.39	38.1%
Renewable Energy	00	0%
Others	305.79	61.1%
Total	500.08	

Table.No.6. Reveals advance amount paid to various sectors in Thanjavur District in the year 2015-2016.To promote standard of living of depressed people in the district, more fund allotted to sc/st. as per the guidance of Tamilnadu state Government.

**Table 4.7: Details Of Deposits, Credit Amount And Credit Deposit Ratio In Thanjavur District-2016(Amount In Crores)**

District	Total Deposits	Total Credit	Credit Deposit Ratio
Thanjavur	10361	13326	128.62

Table.No.7. Gives the details of deposit amount received from the account holder of different banks in Thanjavur District and collected deposits distributed to whom seeking financial assistance for various purposes. But distributed amount is higher than the fund generation; credit deposit ratio is 128.62 percentages.

## V. FINDINGS

The study only covers the short period of analysis of performance of Lead Banks operations in state level particularly in Thajavur District. Before introduce of Lead Banks Schemes banks only concentrate and provide loan, financial assistance for urban areas. Now under the guidance of RBI all commercial banks, co-opertive banks and private banks give importance to priority sectors, non-priority sectors and rural credit. In Thanjavur District is granary of Taminadu so major amount of credit allotted to Agricultural and allied purpose than the housing, education, export, renewable energy and small medium enterprises.

## VI. CONCLUSION

The Lead Bank Scheme deals with providing priority sector advances and Government sponsored scheme loans. In the context, the study has analyzed and compared the performance of Lead Bank Scheme of banks in Thanjavur District in respect of number of branches, deposits, and advances, priority sector advances, Government sponsored scheme loans and recovery performance and found that their performance has improved. The researcher hopes that this study might be useful to policy makers for further improvement of the Lead Bank Scheme of banks.

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# Design And Analysis Of Wimax And WLAN Notched Rectangular Microstrip Patch UWB Antenna

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## Abstract

A dual band-notched compact ultra wideband antenna is presented, with a modified rectangular patch and truncated ground plane. To generate single and dual band-notched characteristics, we use two inverted U-shaped slots, instead of changing the patch or feedline shapes. By properly adjusting the dimensions of these elements, two controllable notch resonances are achieved. The simulated results shows that the proposed dual band-notched monopole antenna offers a very wide bandwidth from 3 to 12 GHz, defined by less than -10dB return loss, with two notched bands, covering all the 3.3 to 3.7GHz WiMAX and 5.1 to 6GHz WLAN2. Impedance, radiation and efficiency characteristics of the antenna are also discussed. The proposed antenna is simulated using CAD FEKO 6.2 suit electromagnetic simulator using MoM (Method of Moment).

## I. INTRODUCTION

In recent years, design of ultra-wideband (UWB) antennas has received an increasing attention after adoption of frequency band from 3.1 to 10.6 GHz for UWB applications by the Federal Communication Commission in 2002. Various kind of planar broadband antennas have been studied and reported for UWB applications [1-4]. Many of them have large radiation patch connected with the microstrip-fed line [4-5].



There are several techniques are defined to obtain the notched band characteristics such as tuning stub technique[6], designing of different shaped slots on the microstrip Antenna patch[7-8], design using parasitic elements of various geometries[9-10] or by fractal geometry of an antenna[11]. Simple and commonly used approach is to incorporate slots or parasitic strips into the antennas' radiator, such as L-shaped slots, U-shaped slots [12] and I-shaped parasitic strips [13], which are known as half-wavelength or quarter-wavelength resonator structures.

In this paper, a simple and compact microstrip line-fed planar UWB antenna with dual band-notched characteristics at 3.5 GHz and 5.5 GHz is proposed. The dual band-notched characteristic can be achieved by embedding the inverted U-shaped slot in the radiating patch and another inverted U-shaped slot in the truncated ground plane to obtain band-notched properties for WiMAX(3.3-3.7GHz) and WLAN(5-6GHz). The notch frequencies can be done by adjusting the total length of the inverted U-shaped slots to be approximately half the guided wavelength of the required notch frequency. The appropriate efficiency and stable radiation patterns are obtained. Moreover, the simulated results have a good agreement with our requirements.

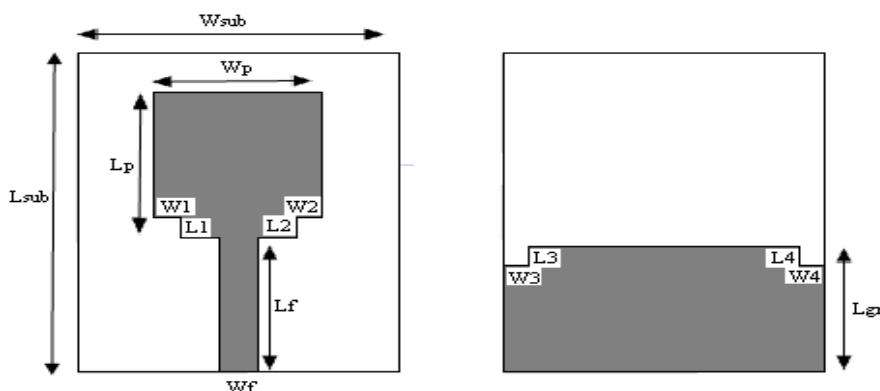
## II. ANTENNA CONFIGURATION

For to obtain the notched band property firstly primitive antenna is taken. The antenna consists of a rectangular radiation patch and a partially modified ground plane with corner notches on both to achieve a broad bandwidth. Two inverted U-shaped slots are designed to achieve a notched bandwidth. These two inverted U-slot comprises of one vertical arm and one horizontal arm, the U-slot width is uniform along its length except at the bend. These two slots are placed on rectangular radiating patch (for WiMAX) and on truncated ground plane (for WLAN2). Distance between the radiating patch and truncated ground plane of the substrate is properly selected and fixed at 1 mm, to achieve required bandwidth of the ultrawideband function.

## III. ANTENNA DESIGN AND PARAMETRIC STUDY

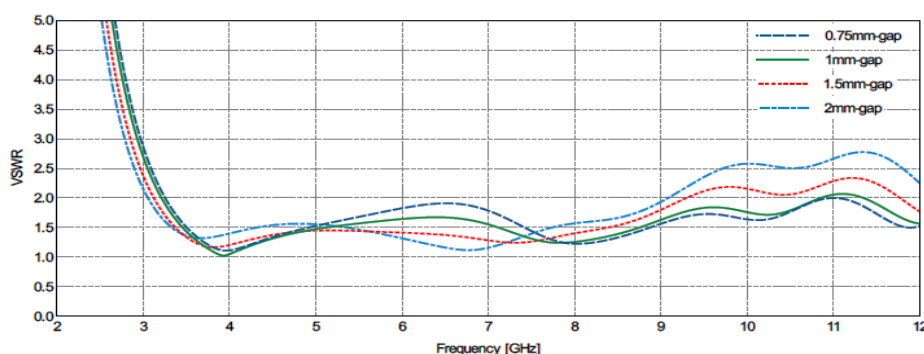
### 3.1 Full Band UWB Monopole Antenna Design

Fig. 1 shows the configuration primitive antenna with pair of notches at lower corner edges of rectangular patch and a truncated ground plane having pair of notches. The proposed antenna, has the dimension of 25 mm X 33 mm ( $W_{sub}$  X  $L_{sub}$ ), is constructed on FR4 substrate with thickness of 1.6 mm and relative dielectric constant of 4.4 having loss tangent ( $\tan \delta$ ) of 0.02. The width  $W_f$  of the micro strip feed line is fixed at 2.8mm. On the upper surface of the substrate, a rectangular patch with size of  $W_p$  X  $L_p$  is printed. The rectangular patch has a distance of to the ground plane printed on the back surface of the substrate. By cutting the two notches  $L_1$  X  $W_1$  and  $L_2$  X  $W_2$  of suitable dimensions at the monopole's two lower corners, it is observed that much enhanced impedance bandwidth can be achieved for the proposed antenna. This thing occurs because of two notches affects the electromagnetic coupling between patch and ground plane.



**Figure 1: Configuration of primitive antenna**

In addition to this, to obtain the more enhanced bandwidth the pair of notch is obtained on the ground plane of  $L3 \times W3$  and  $L4 \times W4$ . Also the gap 'g' between patch and ground plane along with position of microstrip feedline is obtained by the way of simulation. This parameter is important to determine the sensitivity of impedance matching as shown in fig. 2 the obtained  $VSWR < 2$  obtained from parametric analysis for gap 'g' between patch and ground plane. This shows that there is a good impedance matching between the microstrip transmission line and the corner notched rectangular radiating element. The notched structure and partial ground plane with multiple rectangular slots improve the impedance matching and the bandwidth of the primitive antenna.



**Figure 2: Simulated VSWR with gap variation between radiating patch and ground plane**

The optimized dimensions of proposed antenna are as follows:  $W_{sub} = 25\text{mm}$ ,  $L_{sub} = 33\text{mm}$ ,  $W_p = 13\text{mm}$ ,  $L_p = 15\text{mm}$ ,  $W_f = 2.8\text{mm}$ ,  $L_1 = L_2 = L_3 = L_4 = 2\text{mm}$ ,  $W_1 = W_2 = W_3 = W_4 = 2\text{mm}$ ,  $L_f = 14\text{mm}$ ,  $L_{gr} = 13\text{mm}$  and  $g = 1\text{mm}$ . This is found that using these dimensions the antenna satisfies requirements of UWB antenna from 3.2 GHz to 12 GHz.

### 3.2 Single and Dual Band-Notched UWB Monopole Antennas

The truncated ground plane of the proposed antenna is an effective part of the antenna. The current distribution on the modified (defected) ground plane affects the impedance characteristics of the antenna. As a result, by inserting a pair of corner notches at the ground plane and carefully adjusting their parameters, additional resonances can be excited and hence much enhanced impedance bandwidth may be achieved.

The proposed antenna structure is simulated using method of moment (MoM) software, CADFEKO Version 6.2[15]. Once the UWB bandwidth is achieved, to obtain notched band properties of the proposed antenna, current distribution of an antenna plays an important role which is the advantage of method of moment analysis where we can analyze actual antenna radiation. While performing the simulation it is observed that the antenna has maximum current distribution on the patch at 3.5GHz for designing of the stop band structure. To achieve the stop band function of an antenna next we proposed a inverted U-shaped slot of half wavelength ( $\lambda/2$ ) in rectangular radiating patch as shown in fig.3.

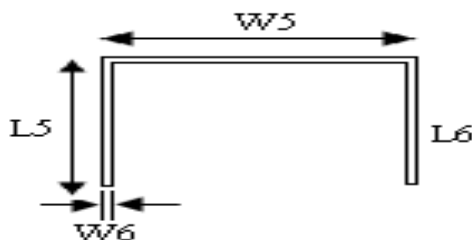


Figure 3: Inverted U-slot for WiMAX

The exact position of the slot is identified by observing the current distribution of the patch. Fig. 4 shows current distribution at 3.5GHz before and after the implementation of inverted U slot. From figure it is observed that after the implementation of this slot the antenna has notched the band from the 3.3 to 3.7GHz.

The slot length is calculated as:

$$f_{notch} = \frac{C}{2L_{slot} * \sqrt{\epsilon_{eff}}} \quad \dots\dots\dots(1)$$

$$\epsilon_{eff} = \frac{\epsilon_r + 1}{2} \quad \dots\dots\dots(2)$$

Where Lslot is the length of the slot;  $\epsilon_{eff}$  is the effective dielectric constant; c is the speed of light. We can use (1) and (2) to predict the length of the slot resonator, then, optimize the parameter Lslot with full wave simulation. The half wavelength of the slot resonators is short at both ends. The adjustment of the band-notched frequency can be done by varying the lengths of the slots. However, the widths of the slot also affect the notched bandwidth. At the desired notch frequency, the current distribution is around the U-shaped slots.

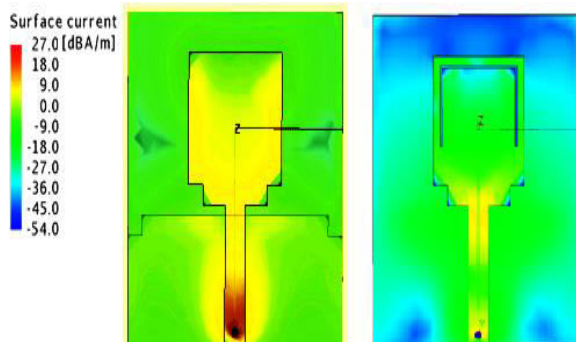


Figure 4: Current distribution at 3.5GHz before and after the implementation of inverted U-slot.

The parametric analysis is done to obtain the notched band characteristics for WiMAX using this inverted U-slot in the radiating patch by varying the gap between the radiating patch and U-slot, also by varying the slot width  $W_6$  (i.e.  $Sw$ ) and length. Fig.5 represents the parametric analysis done by varying slot width ( $W_6$ ) the peak obtained is varying. And it found that at  $W_6=0.25\text{mm}$  obtained peak is at 3.5GHz which meets our requirements.

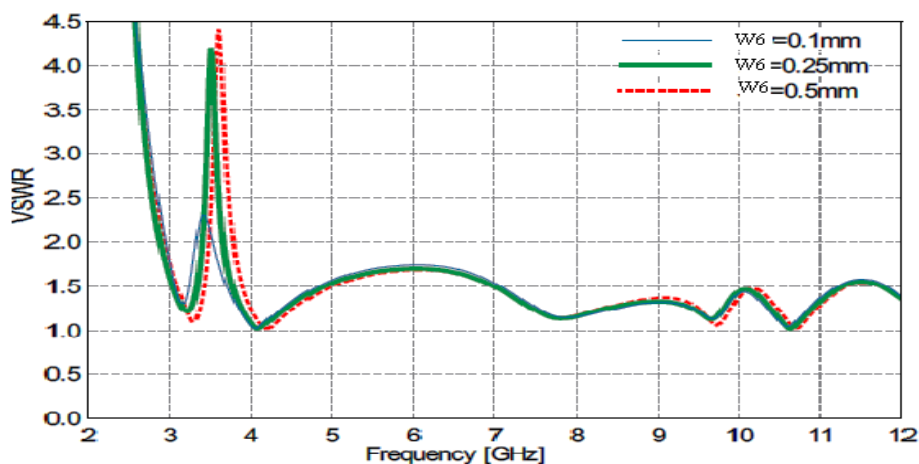


Figure 5: Parametric analysis done by varying slot width for WiMAX

The optimized dimensions of proposed inverted U-slot are as follows:  $L_5=L_6=8\text{mm}$ ,  $W_5=11\text{mm}$ ,  $W_6=0.25\text{mm}$  and gap between radiating patch and slot is 1mm obtained by the way of simulation. The results shows that using these dimensions the antenna satisfies requirements of WiMAX band notching function from 3.3 GHz to 3.7 GHz. Same procedure is followed to notch the another narrowband system known as WLAN2 to avoid its interference from the UWB system. The position of another inverted U-shaped slot as shown in fig.6 is identified by observing the current distribution of radiating antenna after notching the band of WiMAX. It is observed that the current is more at the truncated ground plane.

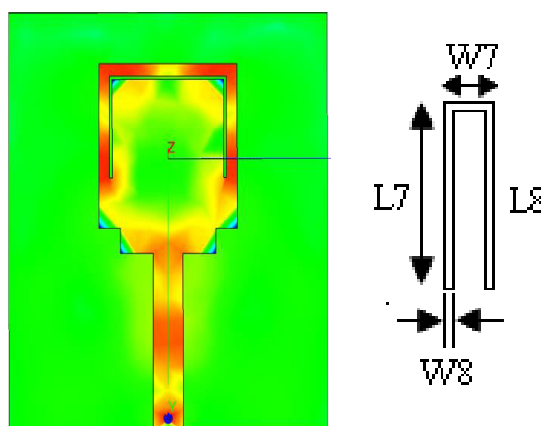


Figure 6: Current distribution at 5.5GHz and Inverted U-slot for WLAN2

The slot length and width is also calculated through half wavelength dimensions. Fig.7 shows the parametric analysis done for to obtain the notched band property for WLAN2 by varying the slot width i.e.  $Sw$  ( $W_8$ ) of inverted U-slot in the ground plane.



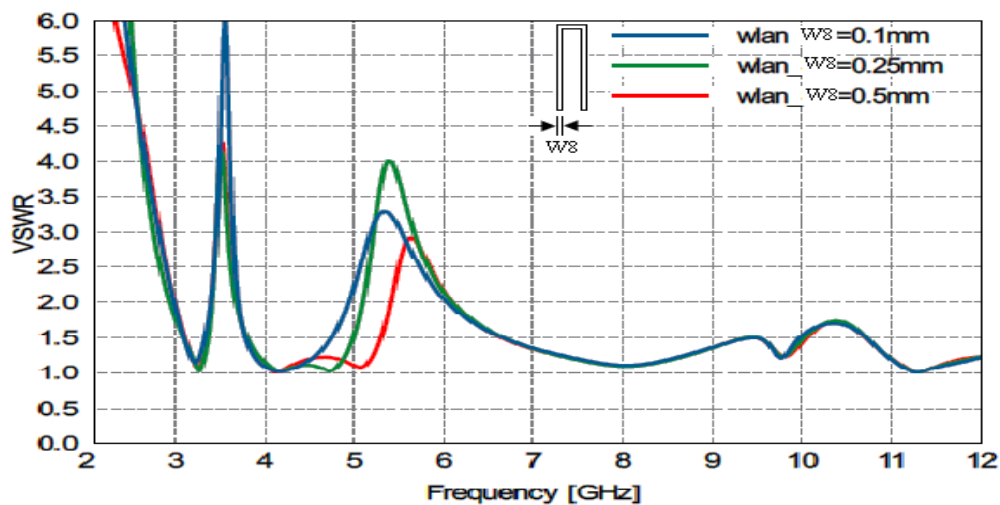


Figure 7: Parametric analysis done by varying slot width for WLAN2

The optimized dimensions for WLAN2 band notch using inverted U-shaped slot are as follows:  $L_7=L_8=8\text{mm}$ ,  $W_7=1.5\text{mm}$ ,  $W_8=0.25\text{mm}$  and gap between radiating patch and slot is 1mm obtained by the way of simulation. The results shows that using these dimensions the antenna satisfies requirements of WiMAX band notching function from 3.3GHz to 3.7 GHz as well as for WLAN2 band from 5.1 to 6 GHz .Fig. 8 shows the configuration of proposed design of an antenna which exhibits the dual band notch properties for WiMAX and WLAN2 band.

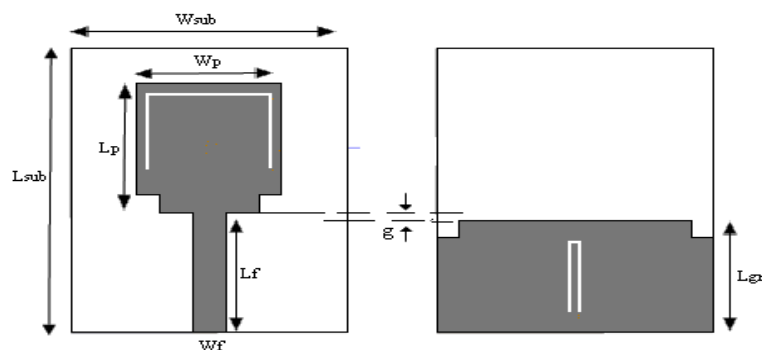


Figure 8: Configuration of proposed antenna

#### IV. RESULTS AND DISCUSSIONS

The results and discussion are divided into two parts which consist of optimized results and time domain analysis and experimental results and discussion. In Section 4.1, optimized results including the simulated final results of reflection coefficient, VSWR, radiation patterns and efficiency of the proposed antenna will be discussed. On the other hand, in Section 4.2, the time domain analysis where electric probe is placed at different positions to investigate the transmitted and received pulse signals.

##### 4.1 Full Band UWB Monopole Antenna Design

Based on the optimized parameters of the proposed dual band-notched planar rectangular UWB antenna with truncated ground plane. We obtained the bandwidth of an antenna ranges from 3GHz to 12GHz. Fig.9 and 10 shows the reflection coefficient  $< -10\text{dB}$  and  $\text{VSWR} < 2$  obtained after the inserting two inverted U-slots, one in the rectangular radiating patch and another on the truncated ground plane which leads to obtain the proper impedance bandwidth.

It can be seen that the simulated impedance bandwidth for reflection coefficient  $< -10\text{dB}$  is from 3 to 12 GHz, except the bands of 3.3-3.7GHz (required for WiMAX) and 5.1-6GHz (required for WLAN2). While designing by the way of simulation it is also clearly seen that by using this filtering structure, the lowest frequency of the antenna is significantly decreased from 3.2 to 3 GHz.

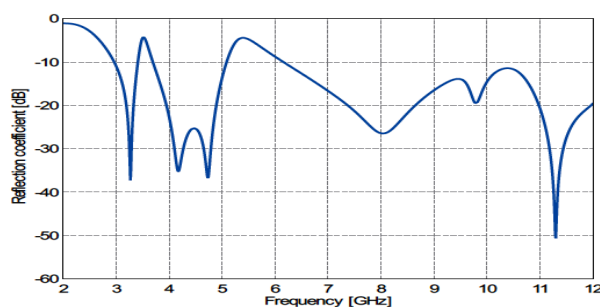


Figure 9: Simulated reflection coefficient  $< -10\text{dB}$

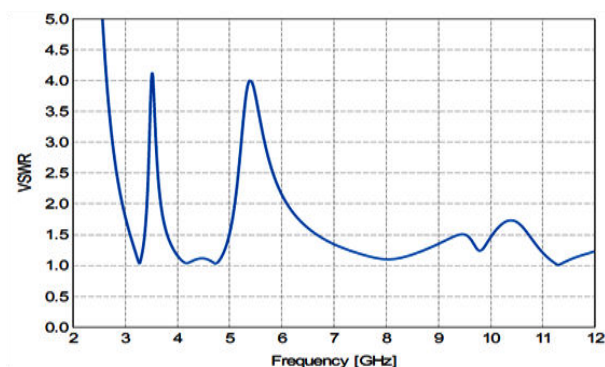


Figure 10: Simulated  $\text{VSWR} < 2$

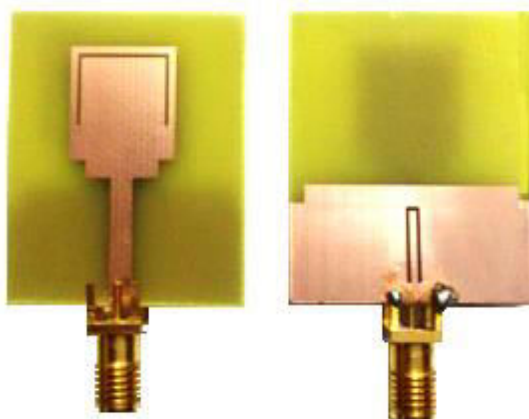
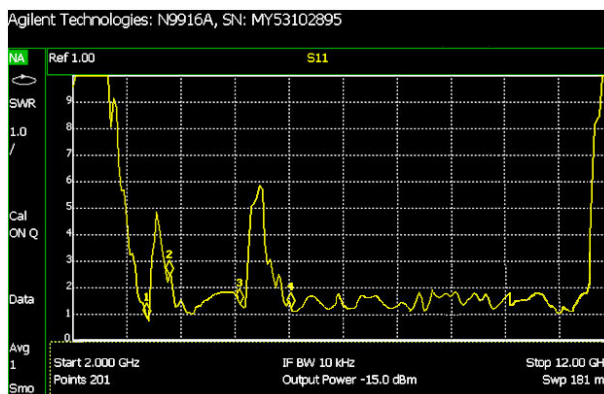
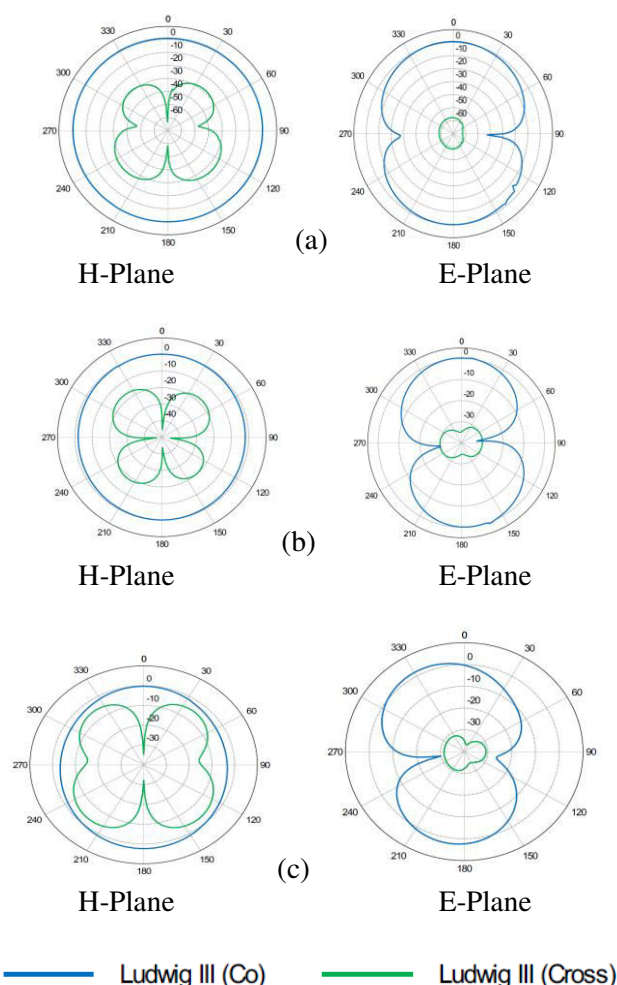


Figure 11: Prototype of a proposed system

After performing the designing and parametric analysis of an antenna the proposed system is fabricated using FR4 substrate having thickness is of 1.6mm. Fig. 11 shows the manufactured prototype of an antenna. This proposed system is measured on using Agilent Technologies handheld RF vector network analyzer (N9916A) having a range of 30KHz to 14GHz in open air medium. From figure 12 it is observed that the proposed system meets the requirement of dual band notching properties at 3.5GHz and 5.5GHz.

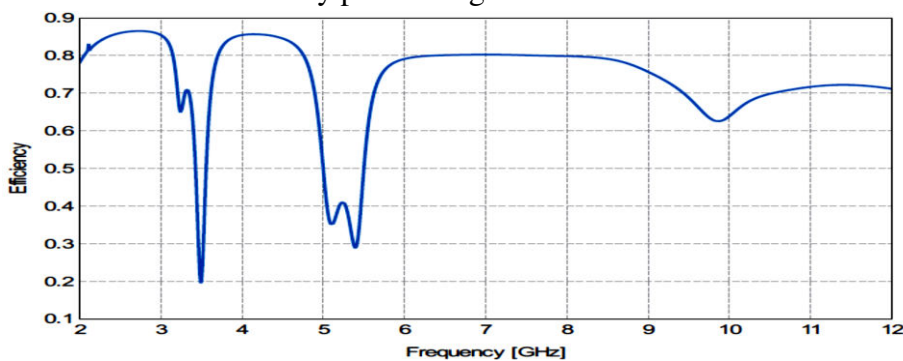


**Figure 12: Measured VSWR < 2 obtained after the inserting two inverted U-slots.**



**Figure 13: Simulated radiation patterns of the dual band-notched antenna at the frequencies of (a) 3.1, (b) 5, and (c) 7.5 GHz.**

Fig.13 shows simulated co-polarization and cross polarization obtained across the E-plane and H-plane. As the microstrip patch antenna has the advantage of its smaller cross polarization [1]. Our antenna fulfills such requirements of polarization. The antenna has shown similar characteristics in case of reflection coefficient and VSWR to get dual notched bands. The simulated efficiency of an antenna is decreased at the higher edges of frequency due to the lossy substrate and it is upto 70%. Fig. 14 shows the graph of frequency versus efficiency of an antenna obtained by performing simulation.

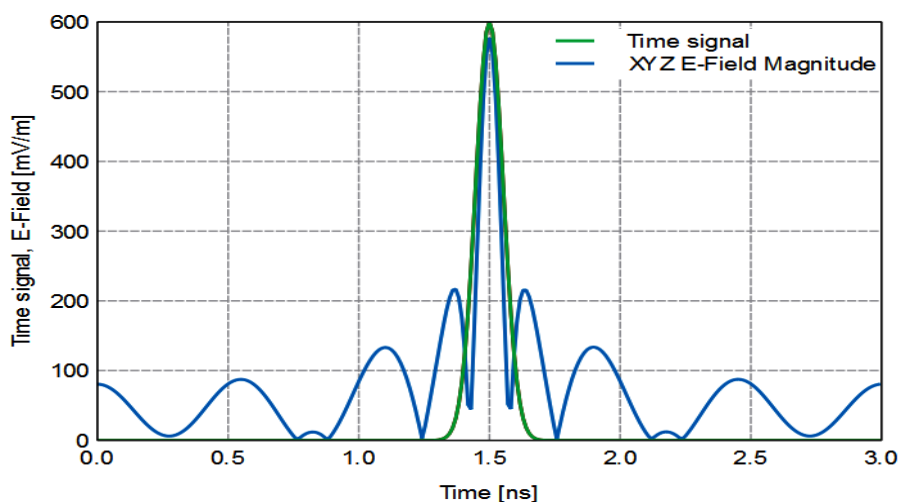


**Figure 14: Simulated efficiency of an antenna**

The figure indicates that the realized dualband-notched antenna has good efficiency flatness except in two notched bands. Therefore, these two inverted U-shaped slots will not have negative effect on the radiation performance of the antenna, in UWB band.

#### 4.2. Time Domain Analysis

As UWB antennas are inspired by transient pulse (such as Gaussian pulse), waveform response provides constructive recognition on antennas time-domain performance is favourable. Therefore, waveform response of the antenna is demonstrated in this section for comparison. In order to validate the efficiency of the antenna, the pulse base signal is excited with Gaussian pulse. It can be related to the dispersion of receive signal compared to transmitter signal. Figure 15 shows the radiated E field which is virtually place probe in simulation to study the effect of radiated signal.



**Figure 15: Time domain analysis for transmitted and received pulse**



From this figure, the antenna is fixed at azimuth angle of  $90^\circ$ , It is proved that the proposed antenna has good potential in transmitting UWB signals with minimum distortion. Furthermore, the time domain UWB pulse signal received by the electric probe shows stable performance where the received pulse signal is almost identical to the transmitted pulse signal.[15-17]

## V. CONCLUSION

A dual band notched compact planar rectangular radiating patch antenna with truncated ground plane is presented. By introducing the corner notches on both at rectangular radiating element and at partial ground plane, a wideband impedance matching is achieved. To mitigate the potential interference between the UWB systems and narrowband systems such as WiMAX (3.3-3.7GHz) and WLAN (5.1-6GHz), two inverted U-shaped slots are added for band rejection. The simulated results shows that the antenna not only has dual notched bands over an ultra-wide operation band but also have a good radiation pattern. The proposed planar antenna is easily integrated with RF/microwave circuits for low cost manufacturing and suitable for various UWB applications.

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# Cost Optimisation of Epoxy Resin-Chalk Powder Composite For Compression Strength

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<b>Keywords</b>	Compression Strength, Chalk Powder (Caco3), Compression Test, ASTM D690, Araldite CY 230, Hardener HY951, Epoxy Resin Cost Optimization, Quantitative Analysis				

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## Abstract

*Composite materials are used for various purposes. In this paper, quantitative analysis for the cost optimization of Araldite Epoxy resin for compression strength has been done. It is achieved by adding chalk powder (CaCO<sub>3</sub>) as low cost filler material. About 28% cost reduction has been obtained. Since the chalk powder cannot increase the tensile strength, this method is effective only for compression strength.*

## I. INTRODUCTION

### 1.1 Composite Materials:

Composites Materials are combinations of two materials i.e. the reinforcing phase, which is in the form of fiber sheets or particles and are embedded in the other material called the matrix phase. The matrix phase can be thought of as glue that holds the reinforcing phase. The primary functions of this matrix are to transfer stresses between the reinforcing fibers or particles and to protect them from mechanical and environmental

damage whereas the presence of fibers or particles in a composite improves its mechanical properties such as strength, stiffness etc. A composite is therefore a synergistic combination of two or more micro-constituents that are distinct at macroscopic or microscopic level within the finished structure. Our main objective is to take advantage of the superior properties of both materials without compromising the adverse effects. Low density, high strength-to-weight ratio and high tensile strength at higher temperatures, dielectric properties and toughness are the useful properties for which composites have been in demand for various applications.

### **1.2 Types of Composite Materials:**

On the basis of the type of matrix material composites are classified into 3 groups. They are: a) Metal Matrix Composites (MMC) b) Ceramic Matrix Composites (CMC) c) Polymer Matrix Composites (PMC). And also classified based on type of reinforcement or fillers used, they are particulate, flakes and fibers.

### **1.3 Polymer Matrix Composites:**

These are the most commonly used matrix material due to its low cost and easy fabrication method but its mechanical properties are inadequate for many structural application. Though their strength and stiffness are less than that of metal and ceramic matrix composites, these difficulties are solved by reinforcing other materials with polymers like ceramic. Further the processing of polymer matrix composites do not require high pressure and high temperature which results in easy fabrication process. These characters encourage the use of these types of composites in structural applications. The elastic modulus of these composites is greater than that of the neat polymer but is not as brittle as ceramics.

## **II. MATERIALS**

### **2.1. Araldite CY 230**

It is a liquid solvent free epoxy resin. It has versatile applications in technical and industrial applications. Curing takes place at room temperature and atmospheric pressure after addition of hardener. Cure shrinkage is generally very less and may be still further reduced by the addition of fillers. Fully cured mixture has excellent mechanical, electrical properties and highly resistant to chemical and atmospheric attack. The castings have good ageing characteristics. It is odourless, tasteless and completely non-toxic. Resin can be stored for at least a year if they are stored under cool, dry conditions in the original containers. It is also good solvent and has good chemical resistance over a wide range of temperature has been used as matrix material. The epoxy used is colourless, odourless and completely nontoxic.

### **2.2 Hardener**

Hardener HY951 was a yellowish-green liquid. It has been used as curing agent. In this work hardener is mixed at 10 wt% to the araldite.

### **2.3 Chalk powder**

Fine quality Chalk powder is used as reinforcement particles; in this work chalk is mixed at 10%, 20%, 30%, 40% by weight to araldite



### III. METHOD OF SPECIMEN PREPARATION AND EQUIPMENTS USED.

#### 3.1 Specimen preparation.

First Araldite CY230 and hardener mixed at 10:1 and mixed thoroughly with hand stirring method, and then chalk powder is weighed to 10-50% and mixed in mixing mug, and poured in mould, for compression the specimen is prepared by pouring it in rubber tube of 20mm diameter and 40mm in length as per ASTM D690 [17], the one end of tube is covered by a tape to form closed cavity for mould, the resin mixture takes 24 hrs of time for curing, similarly for tensile specimen where resin is poured in a pan and afterwards it cut into required dimension as per ASTM D638 [16] type II as 50mm\*12mm\*6mm and extra length is provided as shown in figure for fixture support in UTM. The test procedure follows according to ASTM D690 for compression and ASTM D638 for tensile test.

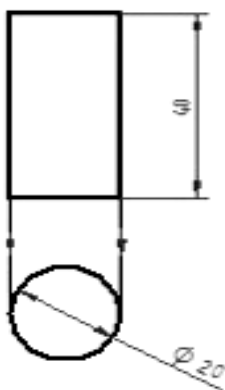


Figure 3.1: Test standard



Figure 3.2: Setting or curing of the specimen

The figure 3.2 is the photograph showing setting of the specimen. Setting Of resin- hardener requires 24 hours. It should be undisturbed during this time. Also, pouring into the mould should be done with utmost care to avoid air bubbles getting trapped in to the specimen.

- One of the Sample detail: 60% Araldite-40% Chalk powder.
- Test standard: ASTM D690



Figure 3.3 (a): Before test



Figure 3.3 (b): After test

Like the one shown in Fig.3.3, *three identical* specimens were prepared for 0 %, 10%, 20%, 30% and 40% composition of Chalk powder. The readings were the average strengths of the three specimens.

### 3.2. Equipments used:

- Digital Weighing Machine of 3Kg capacity, with 0.01 kg accuracy.
- Universal Testing Machine



Figure 3.3: UTM with digital output devices.

### 3.3 UTM specifications.

Table 3.1 UTM specifications

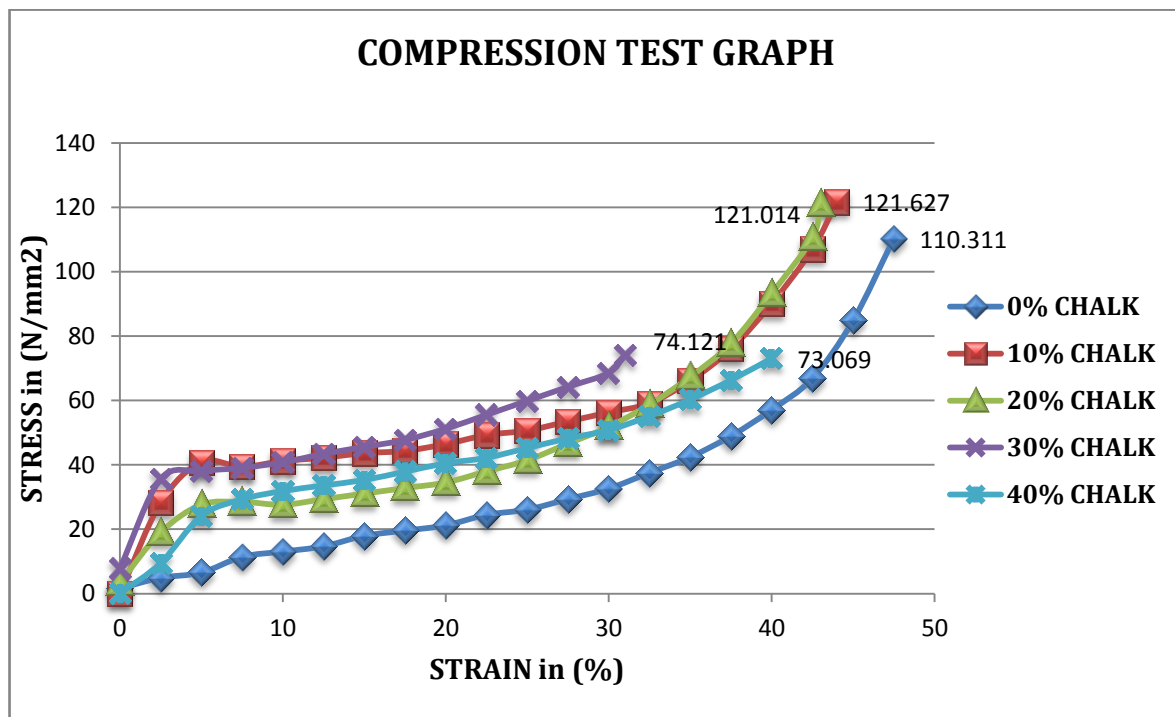
1	Make-AUTO Instrument
2	60 Ton Capacity
3	Load Accuracy of +/- 0.5% of indicated load
4	Hardware control panel for operator convenience
5	Automatic Transducer recognition for load cells and extensometers
6	Library of ASTM and ISO Test methods

## 4. RESULTS AND DISCUSSIONS

The results are tabulated in table 4.1.

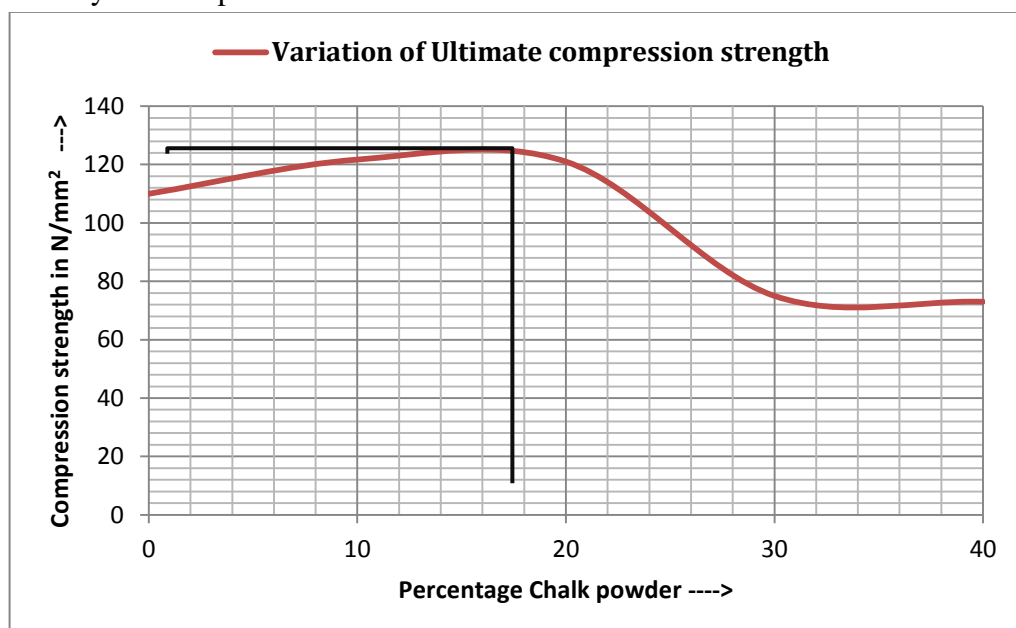
Table 4.1: Experimental Results

Serial number	Specimen composition	Ultimate load in KN	Ultimate strength in N/mm <sup>2</sup>
2a	Only epoxy Specimen	34.654	110.311
2b	10% chalk	38.209	121.627
2c	20% chalk	38.016	121.014
2d	30% chalk	23.565	74.121
2e	40% chalk	22.954	73.069



**Figure 4.1: Stress- strain relation during compression test.**

From the compression test graph as shown in fig 4.1, it is observed that for 0% chalk curve is deforms slowly and fails at nearly 110Mpa. And for 10 and 20% chalk composites it is found that the specimen takes load and deforms linearly up to certain point as shown in fig 4.1. and deforms continuously and fails at nearly 121Mpa. And for 30%, 40% chalk composites it is found that the specimen takes load initially without deforming this is due to presence chalk particles, and deforms linearly as shown in graph and deforms continuously and fails at nearly 73-74Mpa.



**Figure 4.2: Variation of Ultimate compression Strength with % Chalk Powder.**

Fig 4.2 shows the variation of Ultimate compression strength with different percentages of chalk powder. Maximum strength of about 125 N/mm<sup>2</sup> is at 16 % to 18% of the chalk powder.

**4.2 Percentage cost:** For cost optimisation analysis, a standard of Ultimate compression strength of 100N/mm<sup>2</sup> is taken. Cost for each specimen is calculated as Cost of epoxy resin + cost of chalk powder = total cost.

**Example:** For 1kg of epoxy and hardener, it is 1000 INR. And for 1Kg of chalk powder, it is 20 INR. So, the ratio of cost 50:1.

For 20% chalk and 80% epoxy, cost = 20% of 20 INR + 80% of 1000 INR = 804 INR.

So, it is evident that the cost contribution of chalk powder is negligible when compared to that of the epoxy. So, we can consider % epoxy only for cost estimation.

Figure 4.3 below shows the variation of percentage cost per 100N/mm<sup>2</sup> Ultimate compression strength. From the graph, it is evident that percentage cost is minimum at 18% of chalk powder.

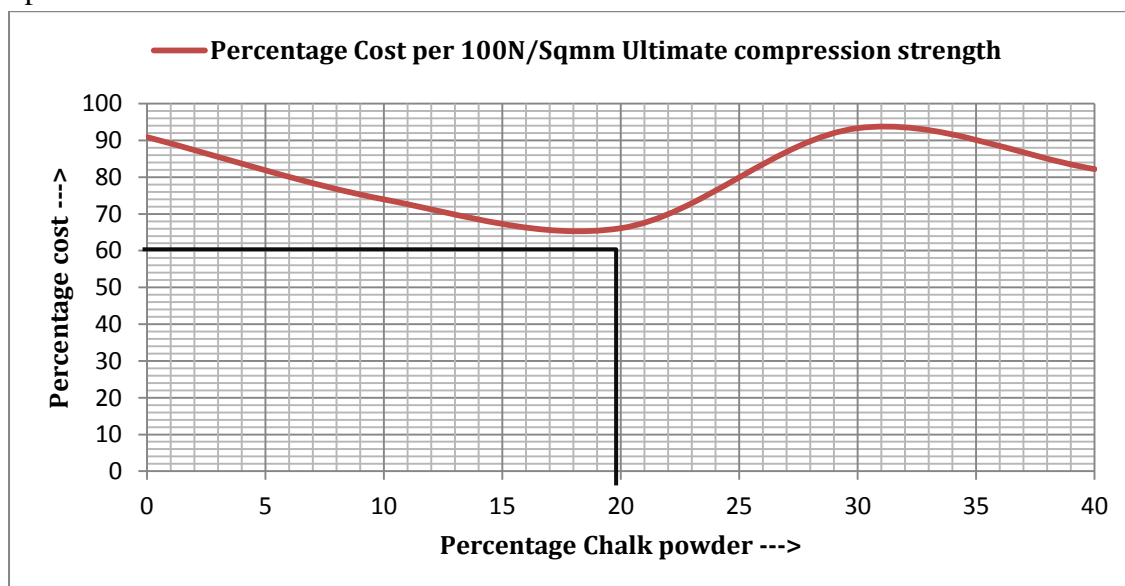


Figure 4.3: Variation of % cost with % Chalk Powder

## V. CONCLUSION

From the above graphical test results, it is seen that 18% chalk powder will give minimum cost for maximum ultimate compressive strength of the specimen. Also, Ultimate tensile strength was found to decrease with increase in percentage of chalk powder. So, the above cost optimisation is effective to compression strength only. Hence the applications are for specimens like columns subjected to compression only.

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# Effectiveness Of E-Content On Zoology Achievemnts Of XII Standard Students

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## Abstract

*In the present era of knowledge explosion, adopting modern tools for teaching is one of the predominant needs of the hour. Instructional technology in the third world is changing rapidly. Knowledge packaging in electronic form is a powerful technique for teaching all subjects. ICT have become handy in class room teaching which has the potential to engage the students throughout the period and make learning easy and effective through, visual aids, animations and simulations. Therefore the technology based teaching and learning has become essential. E-content is now the most preferred solution for learning effectively, whilst the e-learning through interactive content offers unique advantage. Our focus and expertise in developing the right content for e-learning has made numerous e-learning programs successful. The qualified teacher, enthusiastic learner and the subject matter to be taught all these three major factors are essential in modern education. Further improved educational technology is more useful in the process of teaching and learning. The present experiment brings out a clear-cut idea about the effectiveness of teaching Zoology and its impact among the XII Standard students' achievement in Zoology. The present study reveals that achievement of XII Standard students in Zoology subject before treatment is low which may be due to the potential or capabilities of the students possessed. The achievement of XII Standard students in Zoology subject after treatment is high, which may be due to the influence of E-content based teaching in Zoology subject. The analysis of data reveals that there is a significant difference found out between the pre and post achievement mean scores. It indicates that the E-content have much influence on the achievement of the XIII Standard students in Zoology subject.*

## **I. INTRODUCTION**

The development of Science and Technology, especially the application of information and communication technology (ICT) in the new era has greatly influenced teaching and learning in education. In the present era of knowledge explosion, adopting modern tools for teaching is one of the predominant needs of the hour. Instructional technology in the third world is changing rapidly. Knowledge packaging in electronic form is a powerful technique for teaching all subjects. ICT have become handy in class room teaching which has the potential to engage the students throughout the period and make learning easy and effective through, visual aids, animations and simulations. They will be able to see the different stages and functions of the learning object which they cannot normally see through naked eyes the repeatability or reusability of technology based learning system meets the needs of all the differently capable students to understand better. Therefore the technology based teaching and learning has become essential.

## **II. NEED AND IMPORTANCE OF THE STUDY**

Technology has significant effect on the Education system for many years. The teacher and learner must gain access to technology for improving learning outcomes. ICT aims at transferring the old traditional paradigm of learning to the new paradigm of learning. E-Content learning encourage open-minded, reflective, critical and active learning. With e-content materials, the student-teacher, the future teacher will understand that he or she is changing from a provider of facts to the one that facilitates a learning environment. It is in this assumption that the present study aims to find out the effectiveness of an innovative strategy with modern technological tools known as e-content of XII Standard students in Zoology subject.

## **III. STATEMENT OF THE PROBLEM**

An appropriate educational technology in the hands of competent teacher can assure better teaching-learning process. Moreover, in the fast developing world, where knowledge explosion is taking place in every sphere, it is unreasonable to expect that mere spoken or written words alone convey the volume of relevant information to the learner in an attention – winning manner, when pupils learn through different senses, their understanding becomes smoother and inquisitive. Further, the concept taught will remain longer in the memory of the learner. Instruction through E-content is a good technique in that direction. The dual effect of easy viewing strengthens and enriches the understanding of the pupils and facilitates the mastery over the content they learn. So, the investigator has intended to study the “Effectiveness of E-content on Zoology Achievement of XII standard students”.

## **IV. OBJECTIVES OF THE STUDY**

1. To study the achievement of XII Standard students in Zoology subject before the treatment.

2. To study the achievement of XII Standard students in Zoology subject after the treatment.
3. To study the impact of E-content based teaching on the achievement of XII Standard students in Zoology subject.

#### **V. HYPOTHESES OF THE STUDY**

1. The achievement of XII Standard students in Zoology subject before the treatment is average.
2. The achievement of XII Standard students in Zoology subject after the treatment is high.
3. There is no significant difference XII standard between the pre and post test scores obtained by the XII standard students in achievement test on Zoology subject.

#### **VI. METHODOLOGY**

The present investigation was undertaken by using the experimental method i.e. Pre test and post test method. The difference between these two tests indicates the impact of E-content based teaching in Zoology. The present experimental study was conducted in Government Higher Secondary School in Namakkal District of Tamilnadu. The present study consists of 100 samples for need identification. In which 50 students were taken as a sample for the final study based on the observation on the lowest score obtained by them. For the present study, the investigator used E-content based teaching on Zoology and achievement test in Zoology subject. The investigator prepared a study material on Zoology by using audio, videos, text and graphics. It was developed and validated by the investigator. The achievement test consists of 80 test items. Each test item has four alternative responses, in which one is right response. It carries a score of one. Like this every item were scored. After giving proper instruction to the students, the pretest tool was administered to the sample. After 30 days interval, the selected samples were subjected to treatment by providing E-content based teaching instruction. Then post test was administered to the treatment group. The score obtained by the 50 students were taken and statistical analysis using Mean, Standard Deviation and 't' test was done.

#### **VII. ANALYSIS OF DATA**

**Hypothesis 1: Before Treatment – The mean and Standard deviation scores of XII standard students' achievement in Zoology.**

One of the main objectives stated in this present study is to study the achievement of XII standard students in Zoology before treatment. The achievement score has been arrived by calculating the score secured by each of the students in achievement test in Zoology. The maximum score for this test is 80. Hence one who securing a score of 1-25 indicates low achievement in Zoology, 26-50 indicates average achievements in Zoology and above 50 indicates high achievement in Zoology? The calculated mean and standard deviation scores are given in Table 1.



**Table 1: The Mean and S.D. Scores of XIII Standard Students in their Achievement in Zoology Before treatment**

N	Mean	S.D.
30	24.97	1.77

It is evident from the above Table 1 that the mean score of total sample is found to be 24.97, which is in low level. Hence it is inferred that the achievement of XII Standard Students in Zoology subject is low. Hence the hypothesis is rejected.

**Hypothesis 2: After Treatment – The mean and Standard deviation scores of XII standard students' achievement in Zoology.**

One of the main objectives stated in this present study is to study the achievement of XII standard students in Zoology after treatment. The achievement score has been arrived by calculating the score secured by each of the students in achievement test in Zoology. The maximum score for this test is 80. Hence one who securing a score of 1-25 indicates low achievement in Zoology, 26-50 indicates average achievements in Zoology and above 50 indicates high achievement in Zoology? The calculated mean and standard deviation scores are given in Table 2.

**Table 2: The Mean and S.D. Scores of XIII Standard Students in their Achievement in Zoology – After treatment**

N	Mean	S.D.
50	53.27	3.02

It is evident from the above Table 2 that the mean score of entire sample is found to be 53.27, which is in high level. Hence it is inferred that the achievement of XII Standard Students in Zoology subject is high. Hence the hypothesis is accepted.

**Hypothesis 3: There is no significant difference exist between the pre and post test scores obtained by the XII standard students in achievement test on Zoology subject.**

**Table 3: The significance of the Difference between Pre and Post Test mean scores on Zoology subject**

Treatment	N	Mean	S.D.	't' Value	Level of Significance
Pre Test	50	24.97	1.77	57.28	S*
Post Test	50	53.27	3.02		

Note: S\* - Significant at 0.01%

It is conformer from the Table 3; the computed 't' value is 57.28, which is greater than the critical value 2.66. Hence the hypothesis is rejected. It is inferred that there is significant difference exists between pre and post test score obtained by the XII Standard students in Zoology subject. Hence the hypothesis is accepted.

### INTERPRETATION

The achievement of XII Standard students in Zoology subject before treatment is low, which may be due to the potential or capabilities of the students possessed. The achievement of XII Standard students in Zoology subject after treatment is high, which may be due to the effect of E-content based teaching in Zoology subject. The analysis of data reveals that there is a significant difference found out between the pre and post achievement

mean scores. It indicates that the E-content have much influence on teaching the subject Zoology.

### VIII. FINDINGS OF THE STUDY

1. The achievement of XII Standard students in Zoology subject before the treatment is low.
2. The achievement of XII Standard students in Zoology subject after the treatment is high.
3. E-content based teaching has influenced the XII Standard students' achievement in E-content subject from low to high.
4. There is significant difference exists between the pre and post test scores obtained by the XII standard students in achievement on E-content subject.

### IX. CONCLUSION

The present experiment brings out a clear-cut idea about the E-content based teaching in E-content and its impact among the XII Standard students' achievement in E-content. Therefore school should provide technological teaching to the students. The opportunities thrown open by the technological advancement is mind-blogging. The education sector and school education in particular need to take a leadership role in the transformation of educational processes to reap the full benefits of educational technology. Such a transformation would require substantial investments in software and hardware acquisition, redesigning of infrastructure, training and development, technical support, research and innovation.

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# Foreign Direct Investment On Higher Education In India

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Keywords	Foreign Direct Investment, Higher Education, Public sector, Private sector				

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## Abstract

*The purpose of this paper is to examine how Foreign Direct investment (FDI) can be leveraged to enhance its impact on Higher Education. This paper attempts to discuss the possibilities of bringing quality, excellence and more opportunities in "Higher education" through the FDI route. Foreign Direct Investment: Education sector is growing day by day and gaining lots of importance in the world and India as well. Education Industry is likely to grow by the Gross Enrolment Ratio (GER) by 2020. Foreign Direct Investment up to 100% is allowed in most of the sectors more significantly, Thus the role of private sector in higher education has significantly increased in the last decade & the growth of the this sector alone, estimates, to grow to US\$ 70 billion by 2013 and US\$ 115 billion by 2018. The study focuses on advantages of FDI in Education with reference to India particularly, and evaluates the advantages and disadvantages of going in for FDI. Foreign Direct Investment has always been a matter of concern for India, when it comes to education sector 100% FDI is allowed by the Government but, besides its advantages, it has some limitations or disadvantages also. In this paper an attempt has been made by the authors to highlight the good and bad effects of FDI in Education Sector.*

## I. INTRODUCTION

Foreign direct investment (FDI) is an investment in a business by an investor from another country for which the foreign investor has control over the company purchased. Businesses that make foreign direct investments are often called multinational corporations (MNCs) or multinational enterprises (MNEs). Foreign Direct Investment has always been a matter of concern for India, when it comes to education sector 100% FDI is allowed by the Government but, besides its advantages, it has some limitations or disadvantages also. In

this paper an attempt has been made by the authors to highlight the good and bad effects of FDI in Education Sector.

In India, education is the key to nation-building. It is also a well-accepted fact that providing the right knowledge and skills to the youth can ensure the overall national progress and economic growth. The Indian education system recognizes the role of education in instilling the values of secularism, egalitarianism, respect for democratic traditions and civil liberties and quest for justice. The education sector in India is evolving and has emerged as a strong potential market for investments in training and education sector, due to its favorable demographics (young population) and being a services-driven economy. Further, India's expanding role in sectors such as software development, generic pharmaceuticals and healthcare, would require the country to invest into learning and training segment as well. The education sector in India is also considered as one of the major areas for investments as the entire education system is going through a process of overhaul. Education is gaining lot of importance in India. Education Industry is likely to grow by the size of the public education sector is \$40 billion and the private sector amounted to \$60 billion in 2015-2016. Foreign Direct Investment up to 100% is allowed in most of the sectors more significantly, there is an expectation that FDI would reach US\$ 1000 million this year. The study focuses on advantages of FDI in Education with reference to India particularly, and evaluates the advantages and disadvantages of going in for FDI.

Foreign direct investment is a passive investment in the securities of another country such as stocks and bonds and also known as portfolio investment. FDI explains about the net inflows of investment to acquire a management interest and also management control and profit sharing as a part of the national accounts of a country. It usually refers to a measure of foreign ownership of productive assets, such as factories, mines and land. Increasing foreign direct investment can be used as one measure of growing economic globalization. India is the second most FDI destination as per the survey by UNCTAD after China for transnational corporations during 2014-2015. As per the data, the second sectors which are attracted higher inflows were services, telecommunication, Construction, Media and computer Hardware and Software. The foreign direct investment involves the transfer of technology and expertise, and participation in the joint venture and management.

Foreign direct investment provides highly productive advantages both governmental and private companies and organizations of all over the world. Foreign direct investment is profitable both to the country receiving investment (foreign capital and funds) and the investors. India has one of the world's largest education systems, which includes 1.3 million schools, 30,000 colleges and 542 universities. The size of the public education sector is \$40 billion and the private sector amounted to \$60 billion. Current law allows 100 per cent FDI in education. According to the Confederation of Indian Industry (CII), another simple and best way to attract private investment in higher education is possible through foreign direct investment (FDI), and for those certain amendments to be made in the Foreign Currency Regulation Act (FCRA).



Foreign investment considered in several types such as Portfolio investment, foreign loans and foreign direct investment are the three important classifications. Out of these foreign direct investments in industry and services are the most useful. According to the International Monetary Fund, “direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is resident in another economy (the direct investment enterprise). The “lasting interest” implies the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the latter”. Foreign Direct Investment means designing and implementing macroeconomic stability policies. It can be safely said that the Education has a very important role in shaping the Indian economy. The sector has a total output and the size of the public education sector is \$40 billion and the private sector amounted to \$60 billion and allocated Rs 52,057 crore for the education sector.

FDI is a predominant and vital factor in influencing the contemporary process of global economic development. The study attempts to analyze the important dimensions of FDI in India. The study works out the trends and patterns, main determinants and investment flows to India. The study also examines the role of FDI on economic growth in India. FDI is considered as the most suitable form of external finance. And it is increase in competition for FDI inflows particularly among the developing nations.

## **II. FOREIGN DIRECT INVESTMENT IN EDUCATION SECTOR**

Foreign Educational Institutions Regulation of Entry and Operations, (Maintenance of Quality and Prevention of Commercialization) Bill 2010 Central Government has on 15 March 2010 unanimously approved the Foreign Educational Institutions Regulation of Entry and Operations, (Maintenance of Quality and Prevention of Commercialization) Bill 2010 (the "Bill"). The Bill proposes to allow foreign education providers to set up campuses in India and offer degrees and diplomas to students. The Union human resource ministry announced that 100 per cent foreign direct investment would be allowed under the law proposed for higher education, even as the Group of Ministers on the issue had that FDI of only up to 50 per cent could be permitted in the sector. The proposed Bill has many clauses to check its potential misuse. It prescribes a time-bound format to grant approval to foreign educational institutions to set up campuses in India. They would be registered with the University Grants Commission (UGC) or any other regulatory body (which supercedes UGC), which will scrutinize proposals of aspiring institutions according to India's priorities. Foreign universities aspiring to set up a campus will also have to deposit Rs. 50 crore as corpus fund and cannot take back the surplus generated from education activities here. Moreover, a foreign education provider shall, out of the income received from the corpus fund, utilise not more than 75 per cent of it for the development of its institutions in India. The human resource development minister had made it clear in the past that quotas would be implemented if the government allows foreign universities into India. Already a number of Universities and foreign companies that operate in the education sector have shown keen

interest to enter India. The outflow from India on education to foreign countries is more than Rs 20,000 crore. The commerce ministry has been arguing for liberalizing higher education sector in India for foreign investment. The remaining income will be deposited in the corpus fund. The Bill states that a foreign institution "shall not impart education in India unless it is recognised and notified by the central government as a foreign education provider under the proposed legislation" and offers education in conformity with the standards laid down by the statutory authority, and of comparable quality.

According to the Confederation of Indian Industry (CII), another simple way to attract private investment in higher education, especially foreign direct investment (FDI), would be to make certain amendments in the Foreign Currency Regulation Act (FCRA). Current law allows 100 per cent FDI in education. For-profit entities are not allowed to get licences from the University Grants Commission and the All India Council for Technical Education (AICTE) or function as private universities under Acts of different state governments. Hence, the investment vehicle is often a Society or a Trust or a Section 25 company. This is one of the major sectors, which is enormously benefited from foreign direct investment. A remarkable inflow of FDI in various industrial units in India has boosted the economic life of country. Employees of the country which is open to FDI get acquainted with globally valued skills in this sector. FDI has also ensured a number of employment opportunities by aiding the setting up of educational institutions in various corners of India.

### **III. FACTORS FAVOURING PROMOTION OF FDI**

Increased Investment in higher education will lead to:

- Increased Institutions
- Enhanced Access to the best universities of the world.
- Opportunities of International Qualification.
- World class labs and libraries.
- Competition leading to quality improvements.
- Curriculum and Technological innovation.
- Research & development.

### **IV. OPPORTUNITIES FOR INVESTMENT IN EDUCATION SECTOR**

1. The Market Size is huge hence, we have high demand
2. Our Mindset of quality means foreign degree without much distinction
3. Our Vast Reservoir of Intellectual Resource
4. Our Regulatory Mechanism is deterrent for high quality, promoting for inferior quality
5. India has a potential of about 50,000 foreign students in next couple of years, whereas presently only 10,000 are studying in India.

### **V. CHALLENGES FACED BY THE EDUCATION SECTOR IN INDIA**

- 1) Accessibility
- 2) Drop-out rate: nearly 40 per cent drop out at the primary stage.
- 3) Social Barriers.
- 4) Relevance: more skill-oriented – both in terms of life-skills as well as livelihood skills
- 5) Management: needs to build in greater decentralization, accountability, and professionalism, Resources:
- 6) Pre-condition: “Not-for-profit” basis
- 7) Regulation
- 8) Alliances
- 9) Approval procedures cumbersome and tedious
- 10) Quality and relevance of education: Infrastructure, curriculum, industry involvement and Employability of graduates due to lack of effective training.
- 11) Financing higher education institutions.
- 12) Technology - Low technology penetration

## VI. ADVANTAGES OF FDI

In the context of foreign direct investment, advantages and disadvantages are often a matter of perspective. An FDI may provide some great advantages for the MNE but not for the foreign country where the investment is made. On the other hand, sometimes the deal can work out better for the foreign country depending upon how the investment pans out. Ideally, there should be numerous advantages for both the MNE and the foreign country, which is often a developing country. We'll examine the advantages and disadvantages from both perspectives, starting with the advantages for multinational enterprises (MNEs).

**Access to markets:** FDI can be an effective way for you to enter into a foreign market. Some countries may extremely limit foreign company access to their domestic markets. Acquiring or starting a business in the market is a means for you to gain access.

**Access to resources:** FDI is also an effective way for you to acquire important natural resources, such as precious metals and fossil fuels. Oil companies, for example, often make tremendous FDIs to develop oil fields.

**Reduces cost of production:** FDI is a means for you to reduce your cost of production if the labor market is cheaper and the regulations are less restrictive in the target foreign market. For example, it's a well-known fact that the shoe and clothing industries have been able to drastically reduce their costs of production by moving operations to developing countries.

FDI also offers some advantages for foreign countries. For starters, FDI offers a source of external capital and increased revenue. It can be a tremendous source of external capital for a developing country, which can lead to economic development.

For example, if a large factory is constructed in a small developing country, the country will typically have to utilize at least some local labor, equipment, and materials to construct it. This will result in new jobs and foreign money being pumped into the economy. Once the factory is constructed, the factory will have to hire local employees and will probably utilize at least some local materials and services. This will create further jobs and

maybe even some new businesses. These new jobs mean that locals have more money to spend, thereby creating even more jobs.

Additionally, tax revenue is generated from the products and activities of the factory, taxes imposed on factory employee income and purchases, and taxes on the income and purchases now possible because of the added economic activity created by the factory. Developing governments can use this capital infusion and revenue from economic growth to create and improve its physical and economic infrastructure such as building roads, communication systems, educational institutions, and subsidizing the creation of new domestic industries.

Another advantage is the development of new industries. Remember that a MNE doesn't necessarily own all of the foreign entity. Sometimes a local firm can develop a strategic alliance with a foreign investor to help develop a new industry in the developing country. The developing country gets to establish a new industry and market, and the MNE gets access to a new market through its partnership with the local firm.

Finally, learning is an indirect advantage for foreign countries. FDI exposes national and local governments, local businesses, and citizens to new business practices, management techniques, economic concepts, and technology that will help them develop local businesses and industries.

## **VII. DISADVANTAGES TO MNEs**

There can also be some drawbacks for foreign direct investment. We'll start with the disadvantages for multinational enterprises (MNEs). Higher education is a typical word to define; its meaning is different in different areas. In India a higher education qualification at degree level takes a minimum of three years to complete, more typically four. It will have a theoretical underpinning, it will be at a level which would qualify someone to work in a professional field and it will usually be taught in an environment which also includes advanced research activity. Shortly, Higher education mainly and generally means university level education. It offers a number of qualifications ranging from Higher National Diplomas and Foundation Degrees to Honors Degrees and as further step, Postgraduate programmes such as Masters Degrees and Doctorates. These are recognized throughout the world as representing specialist expertise supported by a wide range of skills that employers find very useful. Further education is generally includes those post graduate studies in where you can gain your Master and Doctorate degree Higher Education in India-Current status: Higher Education in India has evolved in distinct and divergent streams with each stream monitored by an apex body, indirectly controlled by the Ministry of Human Resource Development. The 433 universities/ institutions are mostly funded by the state governments. However, there are 44 important universities called Central universities, which are maintained by the Union Government and because of relatively large funding, they have an edge over the International Journal of Social Science & Interdisciplinary.

Education sector assumes greater significance in developing countries like India. This sector offers huge untapped market. The higher education sector, owing to its huge



potential, holds very promising prospects. Increase in number of Educational Institutions in India has been remarkably rapid. India faces a big challenge to provide education to young people, especially in far-flung locations. The present paper makes an attempt to study the current scenario of FDI in education sector highlighting the positive and negative impacts of it on the society and economy as a whole. The research approach is exploratory in nature. This paper has major implications for educationists who intend to reap the benefits of FDI as well as Government who need to frame suitable policies.

The education sector in India is divided into two sub segments; the key segment comprises of schools and higher education, while the other segment comprises of coaching classes, pre-schools and vocational trainings. The Government of India has recently ignited reforms by opening up certain sectors to foreign investment, which would ideally result in increased economic growth and employment generation. Government of India has permitted foreign direct Investment (FDI) up to 100 per cent through the automatic route.

India's education sector has witnessed significant expansion since the government approved FDI in April 2000, thus providing a huge opportunity for investment. Yet FDI remained zero in the first three years, increased till 2008-09 and then kept falling again. In the past 11 years, the total FDI in education has stood at Rs 2,051 crore, the yearly average of Rs 186 crore being one-tenth of one per cent of what the Centre and state governments annually spends in this sector. Government has proposed 100 percent foreign direct investment in higher education and hinted at making reservation mandatory in the institutions to be set up by foreign universities in the country. Once approved by the Cabinet and passed as law, the Foreign Education Providers (Regulation) Bill will grant deemed university status to such institutions.

## VIII. CONCLUSION

At last it is not wrong to state that India badly need funds for the development of education sector as it is beyond the capability of country to cater the need of finance. In order to tackle this situation 100% FDI has been allowed by the Govt. but besides its advantages and it is having certain severe disadvantages which needs strict action on the part of Indian govt. A regulatory body should be framed otherwise India might face some bad consequences in context of culture and autonomy of foreign education providers.

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# Micro Finance Instrument For Women's Empowerment

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Women's Empowerment, Women Entrepreneurship Development Challenges, Microfinance Services, Addressing Employment And Livelihood Needs

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## Abstract

*Micro Finance for the poor and women has received extensive recognition as a strategy for poverty reduction and for economic empowerment. Increasingly in the last five years, there is questioning of whether micro credit is most effective approach to economic empowerment of poorest and, among them, women in particular. Development practitioners in India and developing countries often argue that the exaggerated focus on micro finance as a solution for the poor has led to neglect by the state and public institutions in addressing employment and livelihood needs of the poor. The purpose of this paper is to clarify the limitation of microfinance programmes as the tool for women's empowerment and the type of support service necessary to maximize the contribution of microfinance service. This paper also highlights the potential hurdles in the development of women entrepreneurship.*

## I. INTRODUCTION

Micro Finance is emerging as a powerful instrument for poverty alleviation in the new economy. In India, micro finance scene is dominated by Self Help Groups (SHGs) – Bank Linkage Programme, aimed at providing a cost effective mechanism for providing financial

services to the “unreached poor”. Based on the philosophy of peer pressure and group savings as collateral substitute, the SHG programme has been successful in not only in meeting peculiar needs of the rural poor, but also in strengthening collective self-help capacities of the poor at the local level, leading to their empowerment. Micro Finance for the poor and women has received extensive recognition as a strategy for poverty reduction and for economic empowerment. Increasingly in the last five years, there is questioning of whether micro credit is most effective approach to economic empowerment of poorest and, among them, women in particular. Development practitioners in India and developing countries often argue that the exaggerated focus on micro finance as a solution for the poor has led to neglect by the state and public institutions in addressing employment and livelihood needs of the poor. Credit for empowerment is about organizing people, particularly around credit and building capacities to manage money. The focus is on getting the poor to mobilize their own funds, building their capacities and empowering them to leverage external credit. Perception women is that learning to manage money and rotate funds builds women’s capacities and confidence to intervene in local governance beyond the limited goals of ensuring access to credit. Further, it combines the goals of financial sustainability with that of creating community owned institutions.

Before 1990’s, credit schemes for rural women were almost negligible. The concept of women’s credit was born on the insistence by women oriented studies that highlighted the discrimination and struggle of women in having the access of credit. However, there is a perceptible gap in financing genuine credit needs of the poor especially women in the rural sector. There are certain misconception about the poor people that they need loan at subsidized rate of interest on soft terms, they lack education, skill, capacity to save, credit worthiness and therefore are not bankable. Nevertheless, the experience of several SHGs reveals that rural poor are actually efficient managers of credit and finance. Availability of timely and adequate credit is essential for them to undertake any economic activity rather than credit subsidy. The Government measures have attempted to help the poor by implementing different poverty alleviation programmes but with little success. Since most of them are target based involving lengthy procedures for loan disbursement, high transaction costs, and lack of supervision and monitoring. Since the credit requirements of the rural poor cannot be adopted on project lending approach as it is in the case of organized sector, there emerged the need for an informal credit supply through SHGs. The rural poor with the assistance from NGOs have demonstrated their potential for self-help to secure economic and financial strength. Various case studies show that there is a positive correlation between credit availability and women’s empowerment.

## **II. OBJECTIVES OF THE STUDY:**

- To clarify the limitation of microfinance programmes as the tool for women’s empowerment and the type of support service necessary to maximize the contribution of microfinance service.
- To study potential hurdles in the development of women entrepreneurship.



### III. METHOD OF DATA COLLECTION

In this study data have been taken from various secondary sources like:

- Internet
- Books
- Magazines
- Newspapers
- Journals

### IV. ANALYSIS AND INTERPRETATION

**4.1 (Objective 1):** To clarify the limitation of microfinance programmes as the tool for women's empowerment and the type of support service necessary to maximize the contribution of microfinance service.

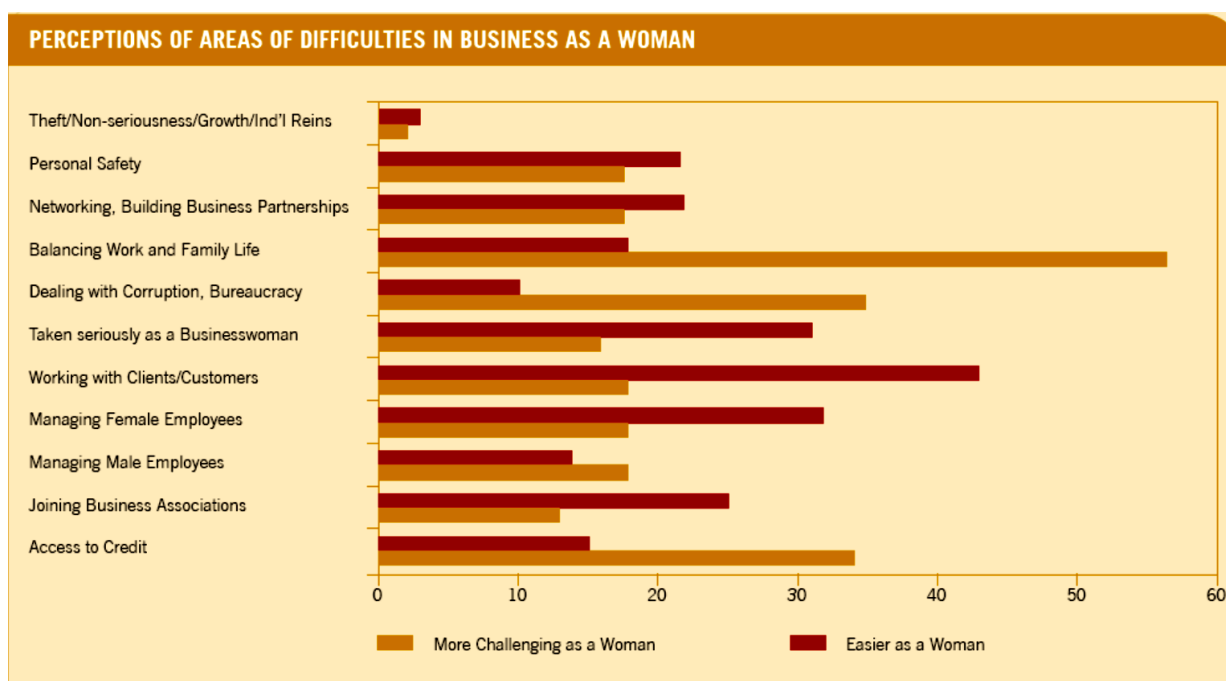


Figure 1: Areas of Difficulties in business as a woman

#### 4.1.1 Challenges faced by the women entrepreneurs

Challenges are faced by the women entrepreneurs due to many reasons. Some of the challenges faced by the women entrepreneurs include-

- Intense competition from similar products, limited knowledge, production and quality standards as well as low confidence and morale.
- Many women started their own business due to the adverse circumstances, such as loss of spouses, divorce or financial hardship.
- Lack of follow up and holding support (i.e. Capital, market linkages, technical information and marketing techniques) after receiving Entrepreneurship development training.
- A risk averse mindset.

- Inadequate capital.
- Networking problem (i.e. with raw supplier to buyer of products)
- Insufficient management and marketing skills.
- Low level of motivation and courage.
- Lack of support from male members (of the families) as well as banks
- Large magnitude of the target group of poor people.
- Attitudinal rigidities.
- Difficulty in creating awareness among people.
- Limited resources with the NGOs.
- Large requirements of training and sensitization of issues.
- Limited number of experienced intervention agencies.
- Diversities of situations due to wide coverage.

#### **4.1.2 Overcoming the challenges**

The challenges faced by the women entrepreneurs can be overcome with the help of the following measures-

- Creating the Importance of Entrepreneurship program and skills training, and MF and support under single roof.
- Training programme operating in several states helped NGOS-MFIs provide their microfinance clients different set of skills for successfully running enterprises.
- Provide micro credit for livelihood support and to micro enterprises development.
- Encouraging women entrepreneur to utilize the loans for productive purposes and have the potential to become entrepreneur.
- Establishing a network of SHG to serve as a “self-help community” for micro enterprises development activities.
- Social recognition of women leading an enterprise.
- Developing female mentors, trainers and advisors.
- Establishing sources of credit.

#### **4.2 (Objective 2): To study potential hurdles in the developing of women entrepreneurship.**

##### **4.2.1 Role of Microfinance Services:-**

**1. Do not restrict loan use:** - Access to financial services provides the poor with the opportunity to accumulate assets, to reduce their vulnerability to shocks (such as illness or death in the household, crop failure, theft, dramatic price fluctuations, the payment of dowries) and to invest in income-generation activities. It also enables them to improve the quality of their lives through better education, health and housing. One of the most important roles of access to credit is that it enables the poor to diversify their incomes. Most poor households do not have one source of income or livelihood. Instead they pursue a mix of activities, depending on the season, prices, their health and other contingencies. This may

include growing their own food, working for others, running small production or trading businesses, hunting and gathering, and accessing loans.

What to do?

Microfinance organizations should allow for the fact that microentrepreneurs have a variety of uses for funds, not only for the activity for which a loan is formally given but also for household operations and other family enterprises. It would be too risky for the poor, particularly the poorest of the poor, to invest all their income in a single activity. If the single activity or enterprise failed, the consequences of this would be much greater than if they had several sources of income. Providers of quality financial services recognize this and place relatively few restrictions on loan use. Most microfinance organizations do not monitor client loans to ensure that the loan is being used for its stated purpose because they recognize that it is part of the survival strategy of poor clients to make an on-going stream of economic choices and decisions. The clients themselves know how best to manage their funds.

## **2. Provide access to financial services, not subsidies:-**

For microenterprises, the most common constraint is the lack of access to working capital to grow their business. Low-income entrepreneurs want rapid and continued access to financial services rather than subsidies, and they are able – and willing – to pay for these services from their profits. Most micro entrepreneurs borrow small amounts for short-term working capital needs. The returns from their economic activities are normally sufficient to pay high interest rates for loans and still make a profit.

Micro entrepreneurs value the opportunity to borrow and save with MFIs since they provide services that are cheaper than those that would normally be available to poor clients or that would be entirely unavailable to them. Moneylenders charge very high interest rates, often many times the rate charged by MFIs, and the moneylenders' terms may not be suited to the borrower. Micro entrepreneurs have consistently demonstrated that they will pay the full interest cost to have continued access to financial services from MFIs.

What to do?

MFIs cannot afford to subsidize loans. If the organization is to provide loans on an on-going basis, it must charge interest rates that allow it to cover its costs. These costs tend to be high because providing unsecured, small loans costs significantly more than loans in traditional banking. The costs to the institution include operating costs, the cost of obtaining the funds for loans, and the cost of inflation. MFIs cannot rely on governments and donors as long-term sources of funding. They must be able to generate their own income from revenues, including interest and other fees. Since the poor seek continued and reliable access to financial services and are able and willing to pay for it, it is advantageous to both the institution and the clients to charge interest rates that cover the cost of the services.

## **3. Financial services contribute to women's empowerment:-**

Women entrepreneurs have attracted special interest from MFIs because they almost always make up the poorest segments of society, they have fewer economic opportunities, and they are generally responsible for child-rearing, including education, health and

nutrition. Given their particularly vulnerable position, many MFIs seek to empower women by increasing their economic position in society. Experience shows that providing financial services directly to women aids in this process. Women clients are also seen as beneficial to the institution because they are seen as creditworthy. Women have generally demonstrated high repayment and savings rates.

What to do?

MFIs interested in serving women should understand the specific needs of women clients and attract women as customers. Women often have fewer economic opportunities than men. Women also face cultural barriers that often restrict them to the home (for example, the institution of the veil, or purdah), making it difficult for them to access finance services. Women have more traditional roles in the economy and may be less able to operate a business outside of their homes. Women also tend to have disproportionately large household obligations. Loan sizes may need to be smaller, given that women's businesses tend to be smaller than men's. They tend to focus on trade, services and light manufacturing. Women's businesses are often based in the home and frequently use family labour. Loans to women should allow women to balance their household and business activities, for example, by not requiring that too much time be spent in meetings and holding meetings in convenient locations. The gender of loan officers may also affect the level of female participation in financial services, depending on the social context.

- Enhancing perceptions of women's contribution to household income and family welfare, increasing women's participation in household decisions about expenditure and other issues and leading to greater expenditure on women's welfare
- More general improvements in attitudes to women's role in the household and community
- Many programmes have had negative as well as positive impacts on women. Where women have set up enterprises this has often led to small increases in access to income at the cost of heavier workloads and repayment pressures.
- Within schemes, impacts often vary significantly between women. There are differences between women in different productive activities and between women from different backgrounds.
- Positive impact on non-participants cannot be assumed, even where women participants are able to benefit. Women micro-entrepreneurs are frequently in competition with each other and the poorest micro-entrepreneurs may be disadvantaged if programmes do not include them.

## **V. FINDINGS**

- Micro financial institutions play a very important role today to provide the micro finance to the women entrepreneur. Mostly MFI provide the assistance to the women entrepreneur through MFI- bank linkage programme.
- From the current situation we can understand that today the main focus of micro finance industry is to empower the woman that's why more loans are provided to woman and on easy terms.



- From the total SHG more SHG are coming in which only women are member because women can better run a business and his family.
- There are many challenges face by women to doing the business as entrepreneur like lack of capital, networking problems etc. But these challenges can be overcoming with the help of Provide micro credit for livelihood support and to micro enterprises development, establishing sources of credit.
- With the help of relationship data we can see that there are more percentage of women SHGs out of total SHGs. So that is good indicator for women entrepreneur.
- The loan distributed data show increase the % of loan amount to women as compare to last year. This show the economic development of women entrepreneur.

## VI. SUGGESTIONS

- Credit is important for development but cannot by itself enable very poor women to overcome their poverty.
- Making credit available to women does not automatically mean they have control over its use and over any income they might generate from micro enterprises.

## VII. CONCLUSION

Traditionally women have been marginalized. A high percentage of women are among the poorest of the poor. Microfinance activities can give them a means to climb out of poverty. Microfinance could be a solution to help them to extend their horizon and offer them social recognition and empowerment. Numerous traditional and informal system of credit that was already in existence before micro finance came into vogue. Viability of micro finance needs to be understood from a dimension that is far broader- in looking at its long-term aspects too.

It is clear that gender strategies in micro finance need to look beyond just increasing women's access to savings and credit and organizing self-help groups to look strategically at how programmes can actively promote gender equality and women's empowerment. On the other hand, thank to women's capabilities to combine productive and reproductive roles in microfinance activities and society has enabled them to produce a greater impact as they will increase at the same time the quality of life of the women micro-entrepreneur and also of her family.

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# Social Anxiety Disorder In Relation To School Environment

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Subject Area

Education

Keywords

School Environment, Government Senior Secondary Schools, Ludhiana, Children With Social Anxiety , Social Anxiety Disorder Scale

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## Abstract

*The present study is an attempt to investigate the relationship of social anxiety disorder with school environment. 200 adolescents from Government Senior Secondary Schools located in Ludhiana were taken as sample. Social Anxiety Disorder Scale developed by the investigator and School Environment Inventory by Misra (2012) were used for the collection of data. The results of the study showed a significant negative correlation between social anxiety disorder and five dimensions (Creative Stimulation, Cognitive Encouragement, Acceptance, Permissiveness and Control) of school environment whereas a significant positive relationship was observed between social anxiety disorder and Rejection dimension of school environment.*

## I. INTRODUCTION

In today's age of hard competition, an adolescent's life has become more confused and insecure to compete with manifold influences, which impinge his personality. Excellence particularly, in academics and generally in all other areas has been seen as an important aspect. Parents, teachers and society desire that every child should climb the ladder of performance to as high level as possible making the life of the child full of stress and strain. The self doubts, confusion, and pressures to succeed can come at a high price for troubled adolescents. Those with good support networks (e.g., among family and peers, or extracurricular sport, social, or religious associations) are likely to have an outlet to help them deal with their feelings. Others without such networks are more susceptible during their emotional changes, and may feel that they are all alone in times of trouble. Unlike the informal world of family and peer relations, the school is a formal institution influencing adolescent's social and moral understanding. It contributes in shaping personality of an

adolescent. If the school environment is poor it may have drastic effects on their development which further leads to stress and anxiety among adolescents. Generally school is the first place where children who are afraid of social situations, can be identified because children with social anxiety feel distressed especially in new social situations provided by schools such as class activities or projects where they may have to perform in front of others.

### **1.1 Social anxiety disorder**

Social anxiety disorder refers to the child's or adolescent's fear of performance or fear of social situation. It may dramatically limit a person's ability to engage in ordinary social activities. Social anxiety disorder is characterized by irrational, intense and persistent fears when faced with a social situation wherein the person may have to perform or meet a lot of unfamiliar persons. Reber (1995) defined Social anxiety disorder as marked by a persistent fear of particular social situations in which the individual is subjected to possible scrutiny by others and fears that he or she will act in some way that will humiliate or embarrass. The actual fear itself may be quite circumscribed, such as being unable to speak in public, choking on food while eating in the presence of others, having one's hand tremble when attempting to write in front of others etc.

. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000), Social Phobia is characterized by an excessive or unreasonable, marked and persistent fear of social situations that invariably provokes an anxiety response and significantly interferes with the person's daily life. . Although individuals recognize that the fear is unwarranted and excessive, social anxiety disorder can cause individuals to feel helpless against their anxiety. Individuals with social anxiety disorder typically avoid social, educational, and occupational situations that are perceived as threatening (Cuthbert, 2002).

### **1.2 School Environment**

School environment can be viewed in terms of the interactions that occur among students, teachers and persons where learning takes place. These interactions create an environment that affects attitude, personality and achievement of the students. Physical facilities, equipment, instructional facilities, interpersonal relations all come under school environment. Vineeta (2004) described school environment as the organizational 'personality' of a school and is the result of interaction between the group and the leader and within the group itself. It may be defined as a set of properties of the work environment, which are specific to a particular organization that may be assessed by the way the organization deals with its employees and it's societal and task environments. Loukas (2007) was of the view that high-quality school climate is advantageous for all students especially for those who are at-risk. The feelings and attitudes that are elicited by a school's environment are referred to as school climate.

Adolescents spend a great deal of their time at school which requires a considerable amount of social interaction with teachers as well as with their peer group. The school environment provides many opportunities for social cognition like oral presentations, answering questions in class, making friends and participating in groups. These social



situations within school settings promote efficient and successful learning. But at the same time these social interactions brings a negative aspect i.e. the possibility of being negatively judged or evaluated by others which leads to a developmental increase in sensitivity among adolescents towards negative evaluations. Being placed under the scrutiny of other can cause over concern and intense worry in adolescents. Consequently they become distressful and may stop socializing with classmates and friends, stop attending certain classes, or even refuse to attend school altogether (Blote, Miers, Heyne & Westenberg, 2015).

Dell'Osso et al. (2003) in their Research on social anxiety in students also confirmed that high school students with even moderate levels of social anxiety have school difficulties and avoid social situations.

## II. OBJECTIVE OF THE STUDY

- To investigate the significance of relationship between social anxiety disorder and school environment among adolescents.

## III. HYPOTHESIS OF THE STUDY

- There exists no significant relationship between social anxiety disorder and school environment among adolescents.

## IV. RESEARCH METHODOLOGY

Descriptive survey method was used in the present study.

### 4.1 Delimitations Of The Study

The study was delimited to 200 adolescents of Government Senior Secondary Schools located in Ludhiana city. The sample was equally balanced between boys and girls.

### 4.2 Tools Used

- Social Anxiety Disorder Scale developed by the investigator
- School environment Inventory (2012) developed by K. S. Misra.

## V. RESULTS AND DISCUSSIONS

To investigate the significance of relationship of social anxiety disorder with school environment, Pearson's coefficient of correlation was worked out and the values are given in following table:

**Table 1: Significance of relationship between social anxiety disorder and school environment among adolescents (N=200)**

Social anxiety disorder and Dimensions of school environment	r
(A) Creative stimulation	-0.201**
(B) Cognitive Encouragement	-0.313**
(C) Acceptance	-0.352**
(D) Permissiveness	-0.196**
(E) Rejection	0.183**
(F) Control	-0.338**

\*\*Significant at 0.01 level of significance

Table 1 shows the relationship between social anxiety disorder and school environment. The values for coefficient of correlation between social anxiety disorder and dimensions of school environment A. Creative stimulation, B. Cognitive Encouragement, C. Acceptance, D. Permissiveness, E. Rejection and F. Control are -0.201, -0.313, -0.352, -0.196, 0.183 and -0.338 respectively. All these values are significant at 0.01 level of significance. Thus creative stimulation, cognitive encouragement, acceptance, permissiveness and control dimensions of school environment have significant negative correlation with social anxiety disorder and rejection dimension of school environment have positive correlation with social anxiety disorder. As per the definition of rejection dimension given in the manual of school environment inventory by Misra (2012) low scores of rejection dimension indicates good school environment where as high scores depicts poor school environment. This dimension thus has positive relationship with social anxiety disorder. Therefore the hypothesis 'There exists no significant relationship between social anxiety disorder and school environment among adolescents.' stands rejected.

## VI. EDUCATIONAL IMPLICATIONS

The results of the present study showed a significant negative correlation between social anxiety disorder and school environment of adolescents. Thus school is a complex, dynamic system that influences student's academic, affective, social, and behavioural learning. If a school environment is conducive i.e. teacher is sympathetic and affectionate towards the child, if there is a creative stimulus i.e. teacher stimulates creative thinking, if there is permissiveness, i.e. school climate provides opportunity to the students to express their views freely, if there is acceptance i.e. teachers love their children and accept the feelings of students in a non threatening manner and also if there are rooms, good libraries and well equipped laboratories, students would be able to attain academically high and tend to develop less behavioral problems. On the other hand if the school environment is not conducive i.e. the teacher is not affectionate and sympathetic towards the child; if there is strict discipline, teacher is not efficient and proper physical facilities are not available, the student would not be able to achieve high and tend to develop more behavioral problems which are costly to both youngsters and the society.

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# Managerial Creativity Amongst The Head Teachers Of Government Primary Schools Of Meghalaya

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Keywords	Creativity, Management, Managerial Creativity				

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## Abstract

*The rationale of the study is to determine the existence of Managerial Creativity amongst the Heads of Primary Schools in bringing about quality primary education. The study is descriptive in nature and was conducted over selected heads of primary schools of West Garo Hills District and South West Garo Hills Districts of Meghalaya. The self-constructed Managerial Creativity Scale for Heads of Primary Schools (MCSHPS) tool of five point Likert scale was used for the collection of the data. The investigator used 2 X 2 Factorial Design ANOVA. The results of the study were: (1) Male and Female Head Teachers were found to have Managerial Creativity of the similar means. (2) Trained Head Teachers were found to possess significantly higher Managerial Creativity than those of Untrained Head Teachers and (3) Managerial Creativity of Head Teachers was found to be independent of interaction between Gender and Training of Head Teachers.*

## I. INTRODUCTION

The social process begins with education. It has brought man to different phases of change. When education is life, we are continuously learning and will do so till the very last breathe of our life. Education is therefore really a continuous process. To keep the system of education continuous and alive, the society felt the need of establishing its own system of education. The school was established with common goals and objectives. Looking around us we now see many schools. It is continuing its process; growth is taking place and we can see changes in and around us. The school is therefore a social organisation; a centre for social process. The schools set up by the societies are looked after by responsible and qualified principals, who are also managers. All the schools are not alike. There are some distinctions. The overall picture of the schools' social and learning environment differs from



one school to another. What is the aspect behind such differences? The climatical conditions in the school organisation are crucial and are determined by the existence of managerial creativity of the principal or the manager of the school.

Management in the organisation is the process of coordinating and overseeing the work activities for the achieving the outcome expected. Mary Parker Follet (1995) defines management as, "The art of getting things done through people". Management is considered to be the part of principal's job which involves working with or through people, as individuals or groups, to accomplish organisation's tasks. Working with people over the years; the manager who is in charge of management of the school is required to use his/her wide experience to come with certain decisions which may not be the stereotype decision to bring changes in the school. It is known as Creativity. Creativity is reorganising of one's own experiences into novel ideas which is useful and appropriate in overcoming the task or the situation. It is the by-product of knowledge, imagination and evaluation. The purity in thoughts and the inspirational ideas that man has conceived has involved into creativity (Sternberg et al, 1997). It has thereafter become a key performance contributor in serving the organisations in getting adapted to the changing needs of the environments. Speaking about creativity in management, or managerial creativity, it is the ability of a person who has an exceptional and unique approach in solving the problems with ease and who has the fluency and the flexibility in handling the different situations in the management. Creativity in management is the process of applying multidimensional ideas of getting things done, developing staff, improving self (John Reh, 2009) and using ones expertise with continuous motivation and creative thinking skills (Amabile,2012).

The head of the school organisation who is a manager is responsible for the progressive development of the institution. It may be possible to manage the school by following stereotype routines being practiced over the years pass down by the predecessors but in order to bring in new and positive change in the school, the head of the school ought to embark upon using his creative ability and innovative skills to manage the school. The success of school organisation; be it be at the higher secondary, secondary or the elementary level depends upon the effective leadership and management of the head of the institution. Head teachers are the facilitators of the school improvement. The centre role of the heads is to lead and manage the school towards progressive development.

The primary school, being one foundational structure of education (Olaniyan & Obadara, 2008) is the crucial channel to maintain quality education albeit the presence of constraints in resources and facilities. Thus, the significance of effective leadership and management for successful operations of school are widely recognized in the 21<sup>st</sup> century. There is growing recognition that the quality of leaders with their managerial skills is critical if schools are to produce the possible outcome for their students and stakeholders.

## **II. SIGNIFICANCE & NEED OF THE STUDY**

There is a consistent agreement in the research literature of quality education that headship matters both to improve schools and to raise students achievement. However, with

the increasing complexity of schools and growing lists of responsibilities of school heads, moral obligation of managerial roles applies both to those in leadership positions and those teachers who are aspirant school heads. Such complex and problematic situations demand for managerial ability of the head teacher with creativity to make them strategically more fluent, flexible, elaborative and original in solving the problems. The school heads faces myriad managerial problems which militate against the effective running of the school. These may be lack of qualified and dedicated teachers, insufficient funding, lack of physical facilities, etc. Where the head unsuccessfully arrest these problems, the smooth functioning of the school is compromised. Albeit all these problems, the head of the school is mandate to comply the provisions stated in the Right to Education Act (2009) so as to facilitate quality education. Reiterating the statement of Azim Premji Foundation on key gaps and policy implementation of Right to Education Act (2011) which highlighted the management and leadership skills needed for the school heads, agreed upon that the school heads has the onus to perform with limited resources and less technical managerial know how and is expected to bring solution to the immediate problems through creativity.

Practically, the researcher came across two heads of primary schools in the West Garo Hills District of Meghalaya managing school(s) excellently than expected under deficient facilities. As supported by Harris (2009), one of the essential ingredients of high performing managers, individuals, teams and organizations is creativity. Heads of the primary schools should possess some managerial abilities that display creativities in the management of their own schools en route for quality education. Head teachers are perceived to be main source of leadership to key school staff. Their educational values, reflective strategies, leadership attributes and managerial creativity shape the internal processes and pedagogies that result in improved pupil outcomes and school effectiveness. Thus, the need to study the managerial creativity of school heads leaders is an unavoidable call towards appropriate policy implications.

### III. OBJECTIVES

The following are the objectives of the study:

1. To study the influence of Gender on Managerial Creativity
2. To study the influence of Training on Managerial Creativity
3. To study the influence of interaction between Gender and Training on Managerial Creativity of Head Teachers

### IV. HYPOTHESES OF THE STUDY

The following are the hypotheses of the study:

1. There is no significant influence of Gender on Managerial Creativity
2. There is no significant influence of Training on Managerial Creativity
3. There is no significant influence of interaction between Gender and Training on Managerial Creativity of Head Teachers

## V. DELIMITATION OF THE STUDY

The present study is delimited to the Heads of Government Primary Schools of West Garo Hills and South West Garo Hills districts of Meghalaya.

## VI. RESEARCH METHODOLOGY

The method of study used by the investigator is the descriptive survey method.

### 1. Sampling

The sampling frame of the study comprises of all the 464 heads of Government primary school heads of West Garo Hills District and South West Garo Hills Districts of Meghalaya. The investigator used the proportionate stratified random sampling technique.

### 2. Tools Used

The self constructed tool of a five point Likert type Attitude Scale was developed to study the Managerial Creative Ability of the primary school heads known as Managerial Creativity Scale for Heads of Primary Schools (MCS<sub>HPS</sub>). Personal Interviews and Focus Group Discussion were also used to map out and explain more fully, the richness and complexity of creativity in the managerial responsibilities with a scope of divergent thinking abilities in open ended tasks of the school leaders.

### 3. Statistical technique used

The statistical technique used by the investigator is 2X2 Factorial Design ANOVA.

## VII. RESULTS ANALYSIS AND MAJOR FINDINGS

The objective was to study the influence of Gender, Training and their interaction on Managerial Creativity of Head Teachers. There were two level of Gender, namely, Male and Female, while Trained and Untrained were the two levels of Training. Thus the data were analysed with the help of 2 X 2 Factorial Design ANOVA and the results are given in Table 6.1.

Table 6.1: Summary of 2 X 2 Factorial Designs ANOVA of Managerial Creativity of Head Teachers

Source of Variance	df	SS	MSS	F-value
Gender (A)	1	89.63	89.63	0.70
Training (B)	1	500.37	500.37	3.92*
A X B	1	7.27	7.27	0.06
Error	460	58641.19	127.48	
Total	463			

\*Significant at 0.05 level

### 7.1. Influence of Gender on Managerial Creativity

From Table 6.1, it can be seen that the F-value for Gender is 0.70 which is not significant. It shows that the mean scores of Managerial Creativity of Male and Female Head Teachers did not differ significantly. So there was no significant influence of Gender on Managerial Creativity of Head Teachers. Thus, the null hypothesis that there is no significant influence of Gender on Managerial Creativity of Head Teachers is not rejected. It may, therefore, be said that both Male and Female Head Teachers were found to have Managerial Creativity of the similar means.

### **7.2. Influence of Training on Managerial Creativity**

The F-value for Training is 3.92 which is significant at 0.05 level with  $df=1/460$  (Vide Table 6.1). It indicates that the Managerial Creativity of Trained and Untrained Head Teachers differ significantly. So there was a significant influence of Training on Managerial Creativity of Head Teachers. Thus, the null hypothesis that there is no significant influence of Training on Managerial Creativity of Head Teachers is rejected. Further, the mean score of Managerial Creativity of Trained Head Teachers is 160.66 which is significantly higher than those of Untrained Head Teachers whose mean score of Managerial Creativity is 158.38. It may, therefore, be said that Trained Head Teachers were found to possess significantly higher Managerial Creativity than those of Untrained Head Teachers.

### **7.3. Influence of interaction between Gender and Training on Managerial Creativity of Head Teachers**

The F-value for the interaction between Gender and Training is 0.06 which is not significant (Vide Table 6.1). It reflects that there was no significant influence of interaction between Gender and Training on Managerial Creativity of Head Teachers. Thus, the null hypothesis that there is no significant influence of interaction between Gender and Training on Managerial Creativity of Head Teachers is not rejected. It may, therefore be said that the Managerial Creativity of Head Teachers was found to be independent of interaction between Gender and Training of Head Teachers.

### **7.4 The Major Findings**

1. Male and Female Head Teachers were found to have Managerial Creativity of the similar means.
2. Trained Head Teachers were found to possess significantly higher Managerial Creativity than those of Untrained Head Teachers.
3. Managerial Creativity of Head Teachers was found to be independent of interaction between Gender and Training of Head Teachers.

## **VIII. DISCUSSION**

The research findings, in general, concurred that the current nature of leadership in school was not playing its role as it should, because it is surrounded by many problems. However, school leadership made a difference on students' learning by coordinating the efforts of teachers, motivating staff and creating a conducive environment for learning. However, qualitative information, enlightened that from the initial stage, the appointment and assignment of a principal was not based on merit, but on political affiliation of the head, which in turn made the school students, teachers and the community perceive the head as the servant of a political party, resulting in mistrust and flawed. Moreover, unnecessary interference from local administrators on school matters was significantly harming the discretion of school administrators. The attention given to academic issues by school administrators was very limited because much of their time was taken up in dealing with non-school issues. They were given much work to do by the Election Commission of India and Block Development Office of the state, which they respected and followed the office's order irrespective of its benefits to school for securing the position of teacher ship.



The results of the study revealed that school heads irrespective of gender to be having similar level of managerial creativity. It is supported by the multidimensional creative ideas of *getting things done, developing staff, improving self and organisational success* through leadership qualities merged with *expertise, motivation and creative thinking skills*. Secondly, there is a strong understanding that school head's experience as well as training influences the managerial creativity of the school head. School head's training and professional development programs and school performance revealed the caution that the selection and assignment of school heads cannot be isolated cases. Results show that the school heads seems to be the primary source of identifying and articulating a vision and providing an appropriate model of leadership.

## **IX. CONCLUSION**

There is no doubt that primary education is very important in our education system. It lays strong and sound foundation for scientific and reflective thinking. It also serves as the foundation upon which other strata of educational structure are built. It is a social centre, a recreation place, a learning centre that meets the individual requirements for the personality development, social and personal values, and other aspects that prepares individuals for life. Head teachers provide number of services that enhanced the smooth functioning of the school. They play the roles of the leadership as well that of the management as they are intimately involved at all the levels of school's activities. As managers they are visionary regarding "process", as leaders they are visionary regarding "outcomes" (Dembowski, 2014). The roles of leaders and managers are complementary to each other and more so with the ability to use managerial skills merged with creativity.

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